ADAPTIVE RECOGNITION



# GDS Dashboard **User Manual**



The purpose of the document is to present the interface of the GDS Dashboard and highlight its features and functions.

# **GDS** Dashboard

# **User Manual**

2.1 Document version: Date of issue: **JANUARY 2025** Copyright © 2025 by Adaptive Recognition Inc.

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#### 1. **EXECUTIVE SUMMARY**

## **Globessey Data Server (GDS)**

GDS is a universal traffic and document data collection and visualization middleware for backend system providers and/or Adaptive Recognition ANPR camera or PR technology users. GDS effortlessly manages, analyzes, and shares large volumes of traffic data regardless of the number of connected endpoints. With the single-click device registration option, GDS can be fully up and ready in mere minutes.

GDS is scalable to store large amounts of records (meta data and associated attachments) in a high availability system that natively supports load balancing over network. Data collection is completely autonomous, while the standardized (acknowledgement-based) data package flow is rapidly managed through IP-based communication and transmitted between multiple endpoints and the server. The software can also share endpoint data with specific business applications.

Thanks to the support of various failover mechanics, continuous data syncing, and automated data recovery, your system can be hardened and downtimes minimized. By natively supporting all Adaptive Recognition smart cameras – Vidar, Einar, MicroCAM – and Osmond document reader endpoints can be operated or, thanks to self-verification and periphery check, monitored, using aggregated status notifications on the interface of GDS supplemented by SNMP device monitoring. This way, you can always reflect the detailed conditions of the system in real-time, saving you time and money regarding maintenance.

### **GDS** Dashboard

Responsive web-based GUI optimized for a variety of display sizes, provides a frontend (GUI) to access the functions of GDS and serves as a handy toolkit to configure and monitor the system. Equipped with a powerful and flexible analytics feature, GDS Dashboard lets you enjoy comprehensive metrics in a visualized format.

The purpose of this document is to present the interface of the GDS DASHBOARD and highlight its features and functions.





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# 2. USER MANAGEMENT

## 2.1. LOGIN & LOGOUT

GDS Dashboard can be accessed with mainstream web browsers (Chrome, Firefox, Edge), by putting the appropriate IP/web address – and port in the case of using non-http(s) standard port – provided by your IT administrator, into the URL bar. The login screen that appears allows you to access the Dashboard by entering user credentials (Username and Password) and clicking on Login button.

GDS <sup>®</sup> DASHBOARD 8.6.4	ADAPTIVE RECOGNITION
A       Username *         A       Password *         Main       English	
⑦ Forgotten password Login	

fig. 01: Login screen

The display language of the user interface can be pre-selected on the login screen and can also be changed after logging in.

The forgotten password function allows the user to send reminder email to their registered email address.

After their work session is finished users can log out from the Dashboard by clicking the Logout button at the end of the menu bar. After 60 minutes of inactivity, the user is automatically logged out of the session.



User operations are supported by context sensitive system messages.

8	Username *		
	Required field Password *	The given username/password is invalid	
$\square$		The given userhame/password is invalu	$\odot$

## 2.2. ADMINISTRATION

Some functions and menu entries of the system can only be accessed with the appropriate user rights. GDS Dashboard handles the following user groups:

- Administrator
- User
- Developer (same rights as User + API doc access (/webjars/swagger-ui/index.html))

User rights	Administrator	User
manage user credentials for themself	х	х
manage user credentials for everyone	х	
add or delete users	х	
access the STATISTICS interface	х	х
access the EVENT LIST interface	х	х
access the HIDDEN VEHICLES interface	х	
access the ACTIONS interface	х	х
access the ENDPOINTS interface	х	
access the MAP interface *	х	х
access the LIVE interface	х	х
access the SETTINGS interface	Х	

\* accept new device function is only available to Administrators

User management tasks are conducted in the ADMIN interface (top entry of the Dashboard menu bar). Members of 'Administrator' user group see a list view of all registered users, where it is possible to change their e-mail addresses, passwords or remove their access.

(+) Add new user				K	< 1/1 >
Login name	Last modified	Admin	Deleted		
Gubrianszky	Nov 5, 2021, 3:14:26 PM	0	0	P	a 🗊
admin	Jun 23, 2022, 10:57:25 AM	$\odot$	0	P	0 💼
alan	Aug 27, 2020, 4:41:52 PM	0	0	P	0 💼

Members of the 'User' group can see and modify their own credentials:

8		User profile	a	Change password
Login name user Last modified Jun 23, 2022, 10:57:25 AM	Ensel *	Submit	Old password *     New password *     Confirm password *	
				Submit

fig. 02: Content of the admin interface

# 3. EVENT MANAGEMENT

#### 3.1 **EVENT LIST**

Traffic data (series of events created of every passing vehicle) and document data (series of events from document and passport readers, e.g.: the Osmond document reader) - hereinafter: records stored in GDS are displayed in pageable, and sortable lists in tabular format and the individual records selected in the list are displayed on a custom "pop-up" form.

The interface supports traditional user paradigms, such as drag'n'drop actions, copy-paste, rightmouse click to open context menus, zoom and resize actions, sorting orders (either ascending or descending). The event lists can be sorted arbitrarily based on the displayed properties. By default, the records are ordered by their timestamp, with the newest records at the top of the list.

(8) admin	⊘	≡					GDS <sup>®</sup> DASHBOA	RD 8.6.4			ADAPTIVE RECOGNITIO	מכ
€ Statistics	~	Eve	nt filte	r								-
Event list		-							_			
X Hidden vehicle	s		Search	result Eventlist refreshed	: 00:06				C I 🗹 I 🔒 I	e d (	L    < < 1/7326+ >	
Actions	~		0	ID	Timestamp ↓ <sup>p</sup>	Plate	Nationality	Rear plate	Rear nationality	Category	MMR category	s
C Endpoints	~		۵۵	A041250204150508	Feb 4, 2025, 4:05:08 PM	H0F944	н	ARE009	н	<u>a</u>		1
🕼 Мар			13	A041250204150453	Feb 4, 2025, 4:04:53 PM	SWT825	PL	CJD443	PL			5
D Live			12	N039250204150450	Feb 4, 2025, 4:04:50 PM	YFP552	D	ZGM508	D	- <b></b> -		8
			12	A041250204150438	Feb 4, 2025, 4:04:38 PM	DJM494	н	WMU249	н			9
			81	A041250204150423	Feb 4, 2025, 4:04:23 PM	OQV247	н	DVK789	н	<b>.</b>		1
			02	N039250204150415	Feb 4, 2025, 4:04:15 PM	0A0325	н	QBR798	н	<i></i>		1
			81	A041250204150408	Feb 4, 2025, 4:04:08 PM	LYQ935	н	XMR518	н	- <b></b> -		5
			81	A041250204150353	Feb 4, 2025, 4:03:53 PM	HSQ968	D	CPB240	D	بد درسین		5
			۵2	N039250204150340	Feb 4, 2025, 4:03:40 PM	ADB401	RO	KCP964	RD			1
			81	A041250204150338	Feb 4, 2025, 4:03:38 PM	SVW033	н	OFG613	н	<u>م</u> لية		1
🕄 Language   Er	nglish		13	A041250204150323	Feb 4, 2025, 4:03:23 PM	YLF355	UK	QJP392	UK	422.24		9
🐯 Settings			12	A041250204150308	Feb 4, 2025, 4:03:08 PM	QMJ677	UK	XQW532	υк	42224		1
🕀 Logout			81	N039250204150305	Feb 4, 2025, 4:03:05 PM	PKY231	PL	N0D438	PL	<i></i>	00	1
			02	A041250204150253	Feb 4, 2025, 4:02:53 PM	YCP811	SK	KOE965	SK			1

fig.03: Tabular display of traffic records

(A) admin	⊘	≡					GDS <sup>®</sup> DASHBOARD 8.6.4			ADAPTIVE RECOGNITION	мc
ed Statistics	~	Ev	ent filte	er							~
Event list											-
🇞 Hidden vehicles		1	Search	result Eventlist refreshed	1: 01:03			C 1		上   I< < 1/170 >	
Actions	~		0	ID	Timestamp ↓F	Overall Check	Date of birth	Document type	Document number	Date of expiry	4
C Endpoints	~		03	250129120101556A	Jan 29, 2025, 1:01:01 PM	OK	Jan 19, 1978, 1:00:00 AM	PS/שד		Sep 19, 2013, 2:20:00 AM	
09 Map			03	250129120008290A	Jan 29, 2025, 1:00:08 PM	ок	Dec 14, 1977, 1:06:40 AM	PM	S1100998	Oct 15, 2011, 2:53:20 AM	
D Live			03	250129115930534A	Jan 29, 2025, 12:59:30 PM	ок	Jun 11, 1985, 2:00:00 AM	PD	D0000000	Nov 29, 2015, 2:20:00 AM	
			12	250129115759512A	Jan 29, 2025, 12:57:59 PM	ок	Jul 7, 1975, 12:56:40 AM	Ρ	A000000	Oct 22, 2011, 1:33:20 AM	
			03	250129115658252A	Jan 29, 2025, 12:56:58 PM	ОК	Jul 15, 1954, 1:53:20 AM	Ρ	N0000000	Dec 9, 2013, 1:46:40 AM	
			ß	250129115523233A	Jan 29, 2025, 12:55:23 PM	ОК	Jun 11, 1985, 2:00:00 AM	PD	D0000000	Nov 29, 2015, 2:20:00 AM	
			03	250129115457470A	Jan 29, 2025, 12:54:57 PM	ОК	Aug 3, 1981, 2:03:20 AM	PO	E00000000	Oct 17, 2021, 2:20:00 AM	
			03	250129115326448A	Jan 29, 2025, 12:53:26 PM	ок	Apr 20, 1992, 2:00:00 AM	Ρ		Jun 1, 2027, 2:33:20 AM	
			02	250129115213196A	Jan 29, 2025, 12:52:13 PM	ок	Jul 15, 1954, 1:53:20 AM	Р	N00000000	Dec 9, 2013, 1:46:40 AM	
			03	250129115155433A	Jan 29, 2025, 12:51:55 PM	ок	Aug 12, 1964, 1:03:20 AM	Р	C01XYN1JL	Jul 19, 2027, 3:20:00 AM	
🔁 Language   Eng	lish		03	250129115024417A	Jan 29, 2025, 12:50:24 PM	ок	Jan 19, 1978, 1:00:00 AM	PS/שד/		Sep 19, 2013, 2:20:00 AM	
🕄 Settings			ß	250129114728161A	Jan 29, 2025, 12:47:28 PM	ок	Aug 12, 1964, 1:03:20 AM	Р	CA000000	Feb 21, 2018, 12:40:00 AM	
🕀 Logout			03	250129114418124A	Jan 29, 2025, 12:44:18 PM	ок	Feb 29, 1968, 1:00:00 AM	PS		Oct 10, 2022, 2:0(	
		п	03	250129114249326A	Jan 29, 2025, 12:42:49 PM	ок	Feb 29, 1968, 1:00:00 AM	PS		Oct 10, 2022, 2:00:00 AM	

fig.04: Tabular display of document records



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Fifty records are shown on each page. Display of different metadata (values assigned to various data fields of the records) columns can be turned ON and OFF by a drop-down list of checkboxes after clicking on the top left corner of the event list ( Hide/Show Columns), and column order can be rearranged by dragging their respective headers.

V ID	refreshe	d: 04:08				₫ I 🛛 I	🗈 i 🖻 🗵	.   <b> &lt;</b> < 1/665+ >
Timestamp		Timestamp ↓F	Plate	Nationality	Rear plate	Rear nationality	Category	MMR category
Plate	120620	Jan 29, 2025, 1:06:20 PM	RXM892	HUN	RXM892	HUN	æ	
Nationality	120611	Jan 29, 2025, 1:06:11 PM	PFC723	HUN	PFC723	HUN	<del></del>	
Rear plate	120600	Jan 29, 2025, 1:06:00 PM	KTJ551	HUN	KTU551	HUN	æ	
Rear nationality	120515	Jan 29, 2025, 1:05:15 PM	SUJ668	HUN	SUJ668	HUN	æ	
Category	120332	Jan 29, 2025, 1:03:32 PM	NZH722	HUN	NZH722	HUN		
MMR category	120303	Jan 29, 2025, 1:03:03 PM	NHZ812	HUN	NHZ812	HUN		
Speed	120259	Jan 29, 2025, 1:02:59 PM	PAH416	HUN	PAH416	HUN	-	
Average speed	120250	Jan 29, 2025, 1:02:50 PM	LET130	HUN	LET130	HUN		
Location								
Section	120235	Jan 29, 2025, 1:02:35 PM	AIEK552	HUN	AIEK552	HUN	<b>~</b>	
Detector	120122	Jan 29, 2025, 1:01:22 PM	PDV373	HUN	XIB273	HUN		
Manufacturer	120055	Jan 29, 2025, 1:00:55 PM	KEH684	HUN	KEH684	HUN	æ	
Model	120036	Jan 29, 2025, 1:00:36 PM	SXF748	HUN	SXF748	HUN	<b>~</b>	
Action list name     Seatbelt fastene	120029	Jan 29, 2025, 1:00:29 PM	BT8218AG	MKD	BT8218AG	MKD	6	
Seatbeit fasterie     PAX total	115954	Jan 29, 2025, 12:59:54 PM	NSS095	HUN	NSS095	HUN	<b>4</b>	
PAX total     PAX confidence	115859	Jan 29, 2025, 12:58:59 PM	RYR772	HUN	RYR772	HUN	<b>~</b>	ĢĢ
M PAA confidence	115822	Jan 29, 2025, 12:58:22 PM	AEBC825	HUN	AEBC825	HUN	æ	

fig.05: Customization of tabular display of traffic records

Datatypes of vehicle-based events:

- ID (sequential event ID)
- Timestamp
- Plate number (front and rear)
- Nationality (front and rear)
- Category and MMR category
- Speed
- Average speed

- Location info:
  - o Location name
  - o Section name
- Vehicle info:
  - o Manufacturer
  - o Model
  - o Color
- Infringement info:
  - o Action list name
  - o Seatbelt fastened

Datatypes of document or passport reader-based records (see later):

- ID (sequential event ID)
- Timestamp
- Overall check
- Birth Date
- Document type
- Document number
- Validity
- Issuer
- Name
- Parents name
- sex

By clicking on a record of the event list, the user is presented with a detailed 'pop-up' view, that includes the media attachments (images and/or videos) associated with the record. Metadata and media attachments displayed may vary depending on the connected endpoint(s).

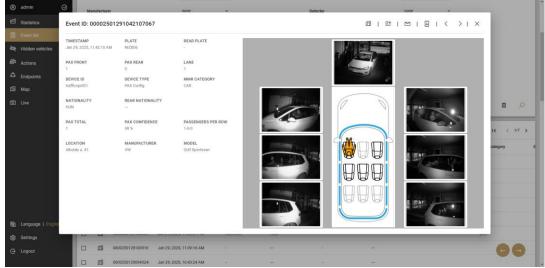


fig.06: Detailed view of a PAX type traffic record

(8) admin (6)				GDS <sup>®</sup> DASHBOARD 8.6.4			ADAPTIVE RECOGNITION
名 Statistics	Event ID: 250130113751	249A			1211日		> 1 ×
ಯ್ Status	TIMESTAMP Jan 30, 2025, 12:37:51 PM	NAME SPECIMEN LUCIENNE	DATE OF BIRTH November 15, 2004	MOTHER'S NAME	DOCUMENT TYPE	DOCUMENT NUMBER	1
🖂 Chrono status	DATE OF EXPIRY February 20, 2011	AUTHORITY Belgium	NATIONALITY Belgium	SEX Female	OVERALL CHECK		
<ul> <li>Store health</li> <li>Store chrono health</li> <li>GDS I/O Metrics</li> <li>TS statistics</li> </ul>		20 11		And and the set of the		An and a second se	
ণ্ট°াTS reports ∎ Heat map স Real time traffic							
C Passing statistics							Q 🖻
Passing reports	: Search result Even	tlist refreshed: 00:21			C 1		] ∐   K < 1/183 >
Transition times Document	ai 📀 🗆	Timestamp ↓	Overall Check	Date of birth	Document type	Document number	Date of expiry
Statistics Document heat map	□ Ø\$ 2501301	13903498A Jan 30, 2025, 12:39:03 PM	OK	Apr 20, 1992, 2:00:00 AM	P		Jun 1, 2027, 2:33:20 AM
Event list	D D 2501301	13751249A Jan 30, 2025, 12:37:51 PM	ок	Nov 15, 2004, 1:53:20 AM	Р	EF000000	Feb 20, 2011, 1:00:00 AM
R Hidden vehicles	D 🛱 2501301	13553473A Jan 30, 2025, 12:35:53 PM	ок	Aug 4, 1980, 1:56:40 AM	PS	210000000	Feb 27, 2009, 12:

fig.07: Detailed view of a document record

Images may take a few seconds to appear, depending on the connection bandwidth between the endpoint(s) and the server. Click on an image to enlarge it and use the < and > arrows to jump to the next/previous record.



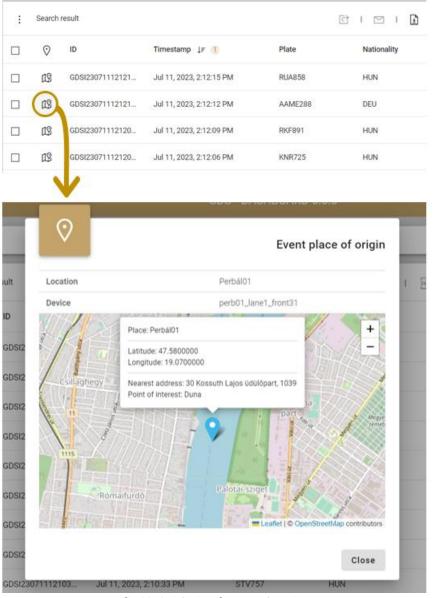


fig.08: Quick-view for event location

In case a MAP service is active, the Event list highlights a geo-location icon (  $\mathfrak{V}$  ) for every record. This marker opens the MAP card, showing geographical information, and the nearest address of where the event has been captured. This function is also available in the event view dialog.



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#### **EVENT QUICK TOOLS** 3.2

Icons on top of the event list, represent the following functions that can be applied to records that are selected from the list by clicking on their checkbox.

		다	I		Ŧ	T	csγ	X	۶			
19	P0012501231228221	2025. jan. 23. 13:28:22		JML976		HUN		<b>4</b>			Perbal 01 - Trafficspo	
19	P0012501231228065	2025. jan. 23. 13:28:06		NLE952		HUN		<b>-</b>		67 km/h	Perbal 01 - Trafficspo	
19	P0012501231227495	2025. jan. 23. 13:27:49		RMT224		HUN		6		62 km/h	Perbal 01 - Trafficspo	
19	P0012501231227399	2025. jan. 23. 13:27:39		RNZ230		HUN		-		67 km/h	Perbal 01 - Trafficspo	
19	P0012501231227330	2025. jan. 23. 13:27:33		AEBE457		HUN		<b>~</b>		64 km/h	Perbal 01 - Trafficspo	

fig.09: Quick-tool icons and selecting traffic records

- Import to action group (assigned selected records to an Action; see chapter 5)
- Send e-mail (share selected records in email with PDF attachment)
- Mass export (exports metadata of all records with or without media attachment in the event list-according to the filter criteria - into a csv file; see chapter 3.3).
- Export CSV (exports the selected records into a CSV file with formatted with a header; see chapter 3.3.)
- Export XLSX (exports the selected records into a XLS file with formatted with a header; see chapter 3.3.)
- Export to PDF (exports the selected records into a PDF; see chapter 3.3.)

(8) admin	Ø		
년 Statistics	Event ID: P00125	01231246181339	
🗎 Event list	PLATE	NATIONALITY	Send email about events
🗞 Hidden vehicles	AELO154	HUN	7.371 m
Actions			
C Endpoints			Subject
🕼 Мар			Content
ට් Live			
			+
段] Language   Eng	ılish	g GDSI250123124634. Ji	n Selected events: 1 0 km/h Perbál01 Yes
		BSIM250123124629 Ja	
袋 Settings		ESIM250123124628 Ja	n Cancel Send email Teszt helszín
🕒 Logout		COMOSCI 001004601	

fig.10: Dialogue box about email generation



admin	Ø								
Statistics	Event ID: P001	246181339				<sup>त0</sup> ा दि		। मि । <	
Event list	PLATE	<b>'</b>						PDF setup	
Hidden vehicles	AELO154								Î
Actions		Page size	A4	<b>•</b>	Font	Roboto	•		
Endpoints	100	Orientation	Portrait	<b>.</b>	Font size	100%	•		
Map							Cancel	Ok	
Live	11							*	
				ID: P00125012	231246181339				
		PLATE			AEL0154				Yes
	glish	NATIONA	LITY		HUN				
		SPEED			64 km/h				
		CATEGOR	(Y		Pickup van				
		ESIM250123124621	Jan 23, 2025, 1:46:21	PM RV	/Y666			Teszt h	elszín

fig.11: Dialogue box about PDF generation in event view window

## 3.3 EXPORTING RECORDS

GDS Dashboard provides several export options:



- Event view can be exported in PDF, which contains all the data related to the record as well as the associated image(s).
- From the event list it is possible to export several selected records simultaneously in csv, excel and pdf format.
- It is also possible to conduct mass-export, the conditions of which can be compiled by the user. The export file is created in csv format without images OR together with images in compressed (ZIP) format. The ZIP file contains a csv file containing the records that match the filter conditions and the images associated with the records.

In the PDF options window, user can check and format the PDF before exporting. Page size, font, page orientation, and font size can be adjusted.

A	В	С	D	E	F	G	н	I	J
1 ID	Category	Nationalit	Plate	Rear nationality	Rear plate	Speed	Lane	Location	Timestamp
2 P0042106220851294393	210	HUN	LYH553	HUN	LYH553	55 km/h	1	Perbál - 04	Jun 22, 2021, 10:51:29 AM
3 P0042106220851257282	310	HUN	LFS027	HUN	LFS027	52 km/h	1	Perbál - 04	Jun 22, 2021, 10:51:25 AM
4 P0042106220851234434	510	DEU	ZWP3802	DEU	ZWP471	50 km/h	1	Perbál - 04	Jun 22, 2021, 10:51:23 AM
5 P0042106220851196871	210	HUN	PXE775	HUN	PXE775	61 km/h	2	Perbál - 04	Jun 22, 2021, 10:51:19 AM
6 P0042106220851177850	310	HUN	MJY650	HUN	MJY650	61 km/h	2	Perbál - 04	Jun 22, 2021, 10:51:17 AM
7 P0042106220851147568	210	HUN	JML110	HUN	JML110	65 km/h	2	Perbál - 04	Jun 22, 2021, 10:51:14 AM
8 P0042106220851115639	440	HUN	SOZ373	HUN	SOZ373	67 km/h	2	Perbál - 04	Jun 22, 2021, 10:51:11 AM
9 P0042106220851067787	210	HUN	JPS623	HUN	JPS623	40 km/h	1	Perbál - 04	Jun 22, 2021, 10:51:06 AM
10 P0042106220851060666	210	HUN	KDS233	HUN	KDS233	71 km/h	2	Perbál - 04	Jun 22, 2021, 10:51:06 AM
11 P0042106220850337015	210	HUN	SKL995	HUN	SKL995	66 km/h	1	Perbál - 04	Jun 22, 2021, 10:50:33 AM
12 P0042106220850210084	210	HUN	RVC477	HUN	RVC477	72 km/h	2	Perbál - 04	Jun 22, 2021, 10:50:21 AM
13 P0042106220849490743	210	HUN	PXP416	HUN	PXP416	66 km/h	1	Perbál - 04	Jun 22, 2021, 10:49:49 AM
14 P0042106220849341862	210	HUN	SLR082	HUN	SLR082	74 km/h	2	Perbál - 04	Jun 22, 2021, 10:49:34 AM
15 P0042106220849299210	210	HUN	LXJ229	HUN	LXJ229	63 km/h	2	Perbál - 04	Jun 22, 2021, 10:49:29 AM
16 P0042106220849290387	310	HUN	JOX605	HUN	JOX605	71 km/h	1	Perbál - 04	Jun 22, 2021, 10:49:29 AM
17 P0042106220849284911	210	HUN	SKK458	HUN	SKK458	64 km/h	2	Perbál - 04	Jun 22, 2021, 10:49:28 AM
10 000401060004006000	210	CDD	CI 11 5 0 ID	CDD	CI 11501D	60 km/h	n	Darbál 04	100 22 2021 10-40-26 AM

fig.12: Result of XLS export of a set of random generated Recordings

12/58

1	D;Category;Nationality;Plate;Rear nationality;Rear plate;Speed;Lane;Average speed;Detector;Location;Section;Action list name;Timestamp
	confidence
2	P0042106220851294393;210;HUN;LYH553;HUN;LYH553;55 km/h;1;;;Perbál - 04;;;Jun 22, 2021, 10:51:29 AM;0;0.5056
3	P0042106220851257282;310;HUN;LFS027;HUN;LFS027;52 km/h;1;;;Perbál - 04;;;Jun 22, 2021, 10:51:25 AM;0;0.49588
4	P0042106220851234434;510;DEU;ZWP3802;DEU;ZWP471;50 km/h;1;;;Perbál - 04;;;Jun 22, 2021, 10:51:23 AM;-1;-1
5	P0042106220851196871;210;HUN;PXE775;HUN;PXE775;61 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:51:19 AM;0;0.48034
6	90042106220851177850;310;HUN;MJY650;HUN;MJY650;61 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:51:17 AM;0;0.55016
7	P0042106220851147568;210;HUN;JML110;HUN;JML110;65 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:51:14 AM;0;0.49143
8	90042106220851115639;440;HUN;S0Z373;HUN;S0Z373;67 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:51:11 AM;0;0.47564
9	P0042106220851067787;210;HUN;JPS623;HUN;JPS623;40 km/h;1;;;Perbál - 04;;;Jun 22, 2021, 10:51:06 AM;0;0.53372
10	P0042106220851060666;210;HUN;KDS233;HUN;KDS233;71 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:51:06 AM;0;0.33278
11	P0042106220850337015;210;HUN;SKL995;HUN;SKL995;66 km/h;1;;;Perbál - 04;;;Jun 22, 2021, 10:50:33 AM;0;0.50258
12	P0042106220850210084;210;HUN;RVC477;HUN;RVC477;72 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:50:21 AM;-1;-1
13	P0042106220849490743;210;HUN;PXP416;HUN;PXP416;66 km/h;1;;;Perbál - 04;;;Jun 22, 2021, 10:49:49 AM;0;0.53384
14	P0042106220849341862;210;HUN;SLR082;HUN;SLR082;74 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:49:34 AM;0;0.49898
15	P0042106220849299210;210;HUN;LXJ229;HUN;LXJ229;63 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:49:29 AM;-1;-1
16	P0042106220849290387;310;HUN;JOX605;HUN;JOX605;71 km/h;1;;;Perbál - 04;;;Jun 22, 2021, 10:49:29 AM;0;0.46952
17	P0042106220849284911;210;HUN;SKK458;HUN;SKK458;64 km/h;2;;;Perbál - 04;;;Jun 22, 2021, 10:49:28 AM;0;0.47497
1.0	Daa/21ac22ac/02c222ac21a, CDP, CHIEQ TP, CDP, CHIEQ TP, co, lm/h, 2, , , Dawhill $A/1, J, m, 22, 2021, 10, 70, 26, M, 0, 0, 76, 6000$

fig.13: Results of CSV export of a set of random generated Recordings

(A) admin		Parlat II - Tadhoant				
🖾 Statistics 🗸	Device ID	none	Device type	noi	10 -	
Event list	Action list name	non	Large data export	nor	ne 👻	
ở Hidden vehicles	GEO point	e				
Actions		Start date	06/23/2022, 07:43 AM 🔯			¢ ش
Devices		End date	06/23/2022, 08:43 AM 🔯	_		_
🕼 Мар	Search results	Export all fields			× I I I I I I I I I I I I I I I I I I I	< 1/200 >
D Live	D ID Timestamp			Rear plate	Rear nationality	Category
	P0012206230606 Jun 23, 202	22, 8: Add header row		0000754	HUN	<del></del>
	P0012206230605 Jun 23, 202	22, 8: Display NULL value		-	HUN	<del>-</del>
	P0012206230601 Jun 23, 202	Attachment download 22, 8:		mercury	HUN	<del>-</del>
🖄 Language   English	P0012206230534 Jun 23, 202	22, 7:	Cancel Export	No. 102	HUN	<i>~</i>
ফ্টি Settings	P0012206230530 Jun 23, 202	22, 7:30:30 AM	BEL	-	BEL	66
🕒 Logout	P0012206230522 Jun 23, 202	22, 7:22:12 AM	HUN	and the second s	HUN	6

fig.14: Mass export of Recordings

Mass export feature has no (hard-coded) limitation regarding the amount of data to be exported. In case the user opts to include images within the mass export, an artificial limitation (configurable maximum interval, 4 hours by default) can be applied to prevent accidental download requests of Gigabytes of event images.



Contents of a mass export package:

P Actions □ □ Devices □ 13 Map □	Event filter Seinch results Be POOKE109061214.	Start date	Large data export				۲ 🚬	аскаў	e (ZIP)	Summary (txt)
P Actions II ⊐ Devices II 13 Map II	Search results				_	1.12				
P Actions □ □ Devices □ 13 Map □	] 10	Start date		m 1 13 1			1 10	_	-	
13 Mep	-0	Start date		· · ·		1 (A)				1 Total event records: 12
	P0042109061214.		09/05/2021, 01:15 Pi 📾	Nationality	Rear plate	-				2 Total attachments: 46 3 Total attachments downloaded
	Stranger and Stranger	End-date	09/06/2021, 02:15 PI 個	HUN			-			4 Missing attachments: θ
	3 P0042109061214.	Export all fields		MAN						
	3 PODATIONOSITIA.	- 652	-	MON	PTMOST					
0	90642109061214.	Format data		HUN	NJN387	10				🔸 Image data (jpeg)
0	3 P0042109061214.	Add header row	10	HIN	0110225	14				
	90542109061213.	Display NULL value	-	MEN				. /		
		Attachment download	8					1		
b Language ("English	90042109061213.		Cancel Export	HON	8,0,425					
	] P0042109061213.			31031	NST954	H C				
	7 70042109061213.	Sep 6, 2021, 2:13:44 PM	NODT14	10,00						
- Logodi							1			
and Dat	. –						/			
arge Dat	a Expoi	π								
					10					
				1				1		
•		E	vent dat	a (cs	v) + im	age lir	7K /	81		
			imestamp Action list Ser 2021.09.06 14:14 not set not		ID L	ane Location Nation 1 Perbál - 04 HUN		Rear nationality Rear plat RUN LH2465		Images (P004210700121447933940.000
		11	2021.09.06 14:14 not set not	set Car	P0042109061214195714	1 Perbál - 04 HUN	NJN387	UN NJN387	68 km/h (P0042109061214195714f0)	(P0042109061214195714x0,P00
			2021.09.06 14:14 not set not 2021.09.06 14:15 not set not		P0042109061214500071 P0042109061215015294	1 Perbál - 04 HUN 1 Perbál - 04 HUN	PDG733 MCN053			(P0042109061214500071x0,P00 (P0042109061225015294x0,P00
			2021.09.06 14:14 not set not		P0042109061214463058	1 Perbál - 04 HUN	GV5452		59 km/h [P0042109061214463058f0]	[P0042109061224463056ir0,P00
			2021.09.06 14:14 not set not 2021.09.06 14:14 not set not		P0042109061214408566 P0042109061214342115	1 Perbál - 04 HUN 2 Perbál - 04 HUN	SNR471 PTM691	TUN PTM691	64 km/h (P0042109061214406566f0) 62 km/h (P0042109061214342115f0)	[P0042109061214408566+0.P00 [P0042109061214342115f0.P00
				set Car	P0042109061214542115 P0042109061214516412	1 Perbál - 04 HUN	5CA833		57 km/h (P004210906121454516412/0)	[P0042109061224516412x0,P00
			2021.09.06 14:14 not set no		P0042109061214551500	2 Perbál-04 HUN	POH754			[P0042109061224551500+0,P00
			2021.09.06 14:15 not set not	set Car	P0042109061215007593	2 Perbal - 04 HUN	PGV340			
			2021.09.0614:14 not set not		20042109061214080823	2 Perbal - 04 HUN	GYN220			(P0042109061215007593x0,P00 (P0042109061214060523f0,P00

fig.15: Contents of Mass Export (visual illustration)

#### **EVENT FILTER** 3.4

It is possible to search and filter stored records between ANPR (traffic) or document data. There is a special filter, the Select the table, to determine whether the search takes place in ANPR (traffic) or document records. A variety of search criteria can be compiled choosing from the properties of the records, and the criteria can be arbitrarily combined with logical operations and parentheses. (Programming skills for setting up a complex logical query are not necessary.)

Event filter	Basic	Advanced					^
Select the table		multi_event	<b>•</b>				
ID		multi_event	~	Timestamp	none	•	
Plate		documents		Nationality	none	*	

fig.16: Select the table filter to set the search to be based on ANPR (multi\_event) or Document (documents) data

Filter can be defined in two methods:

- BASIC
- ADVANCED



Event filter						
Basic Advanced						
ID	none 👻	Timestamp	after	Ŧ	63	
Plate	begins with 👻 🗛	Nationality	Thu Jun	•	une >	
Rear plate	none 👻	Rear nationality	23 15:39		1 2 3 4	
Category	a 200 - 4000 -	MMR category		5 6 7	8 9 10 11	
Manufacturer	listing 👻 (Ford (3)) (Honda (3))	Detector		12 13 14 19 20 21 26 27 28		
Speed	greater than 👻 90 km/h	Average speed				
Location	none 👻	Section	none	Ŧ		
Device ID	none 👻	Device type	none	Ŧ		
Action list name	none 👻	Seatbelt fastened	No	Ŧ		
GEO point	0					
						\$

fig.17: Basic event filter on GDS dashboard, with interactive QoL elements

In BASIC mode, metadata associated with the records can serve as a basis of filtering conditions with inclusive 'AND' relations. After specifying the filter criteria, clicking the search button ( $\mathcal{P}$ ) on the right (pressing the ENTER button is not sufficient) will display the filtered event list.

Filtering can be done with a set of operators:

Operator	Description
none	the specific condition will not be considered
begins with	the beginning of an unspecified number of characters for the phrase you are looking for (e.g. license plate, document identifier, etc.) e.g. Plate – ABC
listing	allows filtering for several license plates and values at the same time (exact data required must be entered, separated by Enter) e.g. Nationality - HUN [Enter] BEL
available	data corresponding to the given condition is available for the record e.g. has speed data: Speed - available
unavailable	data corresponding to the given condition is not available for the record e.g. no speed data: Speed - not available
before	listing events that occur before a specified time e.g. Date earlier than 01/06/2024
after	listing events that occur later than a specified time e.g. Date later than 01/06/2024
between	filtering for events between two specified times / values e.g. between 30 km/h and 90 km/h
less than	list events with a speed lower than the specified speed e.g. less than 90 km/h
greater than	list events with a speed higher than the specified speed e.g. greater than 30 km/h

It is possible to filter by geographical area utilizing the geo point interface (3) to filter records within a geographical zone created by the user.

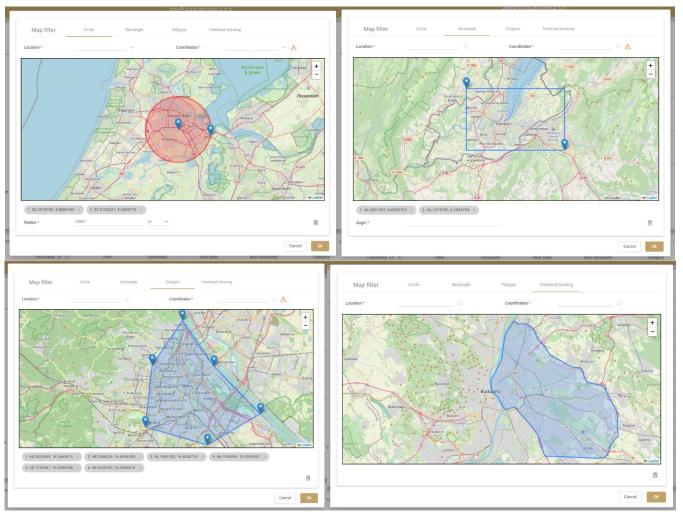


fig.18: Geo location filtering on GDS dashboard

Drawing toolset (circle, rectangle polygon, freehand) is available to the users to define their area of interest by interactive markers, supported by online geocoder engine that turns addresses and place names inserted to the 'Location' box into geographic coordinates. For more info, see chapter 8.3.

Markers can be defined by clicking on the map, searching for a geographical location, or inserting the coordinates. Submitted markers appear in grey tags under the map and can be removed by clicking on the delete tag (x) button. All tags can be removed at once using the Clear map ( $\hat{m}$ ) button.



In ADVANCED mode, metadata associated with the records can be put to a complex query using logical operations (AND / OR / NOT / XOR) and parentheses.



fig.19: Advanced event filter on GDS dashboard, with operators





# 4. HIDDEN VEHICLES

This view is only related to traffic events. The Hidden Vehicles interface is available to admin level users. License plates added to the Hidden Vehicles list will not appear in the event list even if they have been detected. Hidden Vehicles will never trigger notifications either.

License plates can be added manually (by clicking Add new vehicle) or by importing it. Import ( and export (iv) are initiated with the icons in the upper right corner.

(8) admin	$\otimes$	≡		GDS <sup>®</sup>	DASHBOARD 8	.6.4			ADAR	TIVE RECO
Statistics										
📋 Event list			Hidden vehicle filter							
🗞 Hidden vehicles			Plate number		none	*				
Actions			Nationality		none	*				
C Endpoints							Ŵ	Q		
🕼 Мар										
D Live			🕀 Add new vehicle				£	- <del>6</del> 7		
			Plate number	Nationa	lity					
			QWE123	FRA			0	<b>i</b>		
			AAA123	HUN			0	Ŵ		
			DEF456	DEU			O	Ē		
			ABC123	HUN			0	Ŵ		
🚯 Language   Engli										
ණු Settings										
G Logout										
			fir oo list of							

fig.20: List of hidden vehicles

When importing a CSV file, make sure to follow a template that matches the format of an exported CSV file. This way compatibility is guaranteed. To check whether a certain vehicle is listed among the hidden vehicles, the search box can be used at the top of the interface.



# 5. ACTIONS

Actions in the GDS central software are automated rulesets for notifications, featuring a combination of filters based on various derived information such as time periods, registration numbers, vehicle make and model data, and document properties. Each action can be associated with Notification methods (email/SMS/Webhook/GDS user). As in the "Event list" function, it can also be set for a new action to apply to ANPR (traffic) data or document data. In the case of set actions, it is possible to list both ANPR and/or document actions in the filter view by setting the "Select the table" filter.

🖲 admin	⊘										ADAPT	IVE REC	
El Statistics	~	Action f	514										
📋 Event list		Action	niter										
R Hidden vehicles				listing -	multi_event, documents -								
Actions	^	Action n	ame	none 👻			Evaluation type		none	Ψ.			
℃ Rules		Start of validity		none 👻			End of validity		none				
E Action Entries		Active		none 👻			Exemption		none				
C Endpoints	v											Ê	Q
9 Мар												_	
ଥି Live													
		: s	earch result   😛 Add new actio	on rule							X A I	<b>&lt;</b> <	1/1 >
		: >	earch result   🕘 Add new action	on rule Evaluation type	Execute if	Exemption	Active	Notifications	Start of validity	End of validity		<b>&lt;</b> <	1/1 >
		· ·			Execute if List includes	Exemption	Active	Notifications	Start of validity			< < 0	1/1 >
			Action name	Evaluation type					Start of validity		Schedule		
			Action name From Odense to Amager alert	Evaluation type Plate and nationality (+ rules)	List includes	0	$\odot$	8 🗹	Start of validity		schedule	0	ŧ
			Action name From Odense to Amager alert Osmond Allowfist	Evaluation type Plate and nationality (+ rules) Document types (+ rules)	List includes	0	0 0	8 D	Start of validity		schedule	0	•
) Language   Englis	sh		Action name From Odense to Amager alert Osmond Allowilist Osmond Blocklist	Evaluation type Plate and nationality (+ rules) Document types (+ rules) Document types (+ rules)	List includes List includes List includes	0	© 0	8 M M M	Start of validity		r Schedule O O O O	0 0 0	
	sh		Action name From Odense to Amager alert Osmond Allowlist Osmond Blocklist Speeders (Traffic Events)	Evaluation type Plate and nationality (+ rules) Document types (+ rules) Document types (+ rules) Based on condition	List includes List includes List includes Meet the condition	0 0 0	© 0 0	8 D D D D 8			r Schedule O O O O	0 0 0 0	iii iii

fig.21: List of actions visible to the User (with icons of currently active Notifications)

₽.				Not	ification
E	Email	SMS	Webhook (1)	GDS	3 user
@	Destination web server * test				•
$\mathcal{P}$	Method * POST	▼ Web u http:	rl //localhost:8080		
2	Language * English (EN)				•
$\square$	Content	Testing !	%%record.@timestamp%%! !		
				0 +	-
				Cance	l Ok

fig.22: Configuring notification channels for an Action (in edit view)

Actions can be defined based on:

- condition only
- condition and record parameters:

- in the case of traffic type action, number plate and nationality with condition 0
- in the case of document type action, various document parameters with condition 0

Alert condition can be set as inclusive/exclusive.

#### CREATING AN ACTION 51

Setting up an Action can be achieved with different methods:

- BASIC editing mode (fig. 22), for classical compilation of filters via GUI (i.e.: dropdown menus, checkboxes, input fields)
- ADVANCED editing mode (fig.23), for setting up arithmetic formula with a visual aid (i.e.: AND/OR conditions, parentheses)
- SPECIAL editing mode (fig.24), that allows inserting an SQL syntax to initiate complex queries by users with appropriate knowledge on database operations. Query syntax can be verified using the Check validity button.

2							Edit action rul
Description		¢		Reason in message		4	
Evaluation type	Based on condition	~		Execute if	Meet the condition	Ť	
Setup timing	Not set						
Action filter Basic	Advanced	Special					
ID	none	-		Category	listing	•	<del>,</del> ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Device ID	none	-		Speed	none	*	Motorbike
Device type	none	-		Timestamp	none	•	Passenger car
Average speed	greater than	r 90	km/h	Seatbelt fastened	none	*	Passenger car with trailer
							🗌 🛲 Van
							trailer
							Cancel Subm

fig.23: BASIC editing mode of a traffic type GDS Action



×	<b>2</b> 0					E	Edit action	rule
	Evaluation type		Based on condition	-	Execute if	Meet the condition 🛛 👻		^
	Setup timing		Not set					
	Action filter	Basic	Advanced	Special				
	NOT 🗸 AN	ID OR XOR					$\oplus$	14
	– category - (Ca	tegory) -	IN -	يلية -	-		Θ	
	nationality - (1	Nationality) -	= v :	SWE	_		Θ	
	₩ NOT	AND 🗸 OR XOR					⊕ ⊖	
	- type -	(Detector type)	* =	← Hyundai			Θ	
	type -	(Detector type)	¥ =	✓ Honda			Θ	
						Can	cel Sul	bmit

fig.24: ADVANCED editing mode of a traffic type GDS Action

<b>6</b>					Edit action rule
Notifications *	Email (1) Webhook (1)		Exemption	0	
Description	ĥ		Reason in message		- 1
Evaluation type	Based on condition 🛛 👻		Execute if	Meet the condition 👻	
Setup timing	Not set				
Action filter Basic	Advanced	Special			
Add SQL condition here				ĥ	Check validity
					Cancel Submit

fig.25: SPECIAL editing mode of a traffic type GDS Action



An action can be set to be active only during certain time periods, such as quiet hours or weekends. In the following example, the Action is active from July to the end of December, only on Mondays (all day), Tuesdays (before noon), and Wednesdays (between 10-11AM and 3-5PM) in Budapest local time zone.

								Tim
art of va	lidity	07/01/2023, 12:0(		End of validity		12/31/2023, 1	2:00 🗖	
chec	lule					Europ	oe/Budapest	•
	Day of the weel	Relation		From		То		
$\checkmark$	Monday	Daylong	•		Ŀ		Ŀ	$\oplus$
$\checkmark$	Tuesday	Before	•		Ŀ	12:00 PM	G	÷
		Between	•	10:00 AM	Ŀ	11:00 AM	Ŀ	
$\checkmark$	Wednesday	Between	•	3:00 PM	<u> </u>	5:00 PM	Ŀ	(+) (†)
	Thursday	Between	~		Ŀ		Ŀ	(+)
		Daturaan	~					~

fig.26: TIMING of active & inactive periods for an action



## 5.2 DATA IMPORT

The import of a preset collection of number plates into a new or existing Action group, it can be done by the User's choice of the following principles:

- adding vehicles / documents from a CSV file (the imported collection will be merged to the existing Action, so the original list is not overwritten and no duplicates are created);
- adding vehicles / documents from the Event List.

	🕂 Add new entry		I []   []   K < 1/1 >
	Plate	Nationality	v
	#1 - Edit Hotlis	st, use IMPORT function	Items per page: 50 Page: 1/1 Showing: 0 - 0   K < >
(8) admin	$\odot$ =	GDS <sup>®</sup> DASH	BOARD 8.6.4 ADAPTI
Statistics			
🗎 Event list	5		Edit action rule
₩ Hidden vehicles			
6 Actions	Action filter	🧿 Open	×
℃ Rules		$\leftarrow \rightarrow \lor \uparrow $ is PC $\rightarrow$ OS (C:) $\rightarrow$ temp	ע אַ Search temp א
E Action Entrie	ID	Organise - New folder	BEE ▼ CII 20 Date modified Type Size
C Endpoints	Device ID	Log I wanted_vehicles_1.csv MSOCache I wanted_vehicles_2.csv	2025. 02. 04. 9-41 Microsoft Excel C 01 2025. 02. 04. 9-41 Microsoft Excel C 01
🕼 Мар	Device type	#2 - Pick a CSV file using system dialog	
් Live	Average speed	Program Files (x86)	
		ProgramData Python310	<u></u>
		Recovery	
	🕂 Add new entry	temp totalcmd	< 1/1 >
	Plate	Users utils v <	,
		File game: New Text Document (2).txt	Microsoft Excel Comma Separa
🛐 Language   Eng			<u>Open</u> Cancel
ත් Settings			Cancel Submit
🕂 Logout			Items per page: 50 Page: 1/1 Showing: 1 - 4
(8) admin	⊗ ≡	GDS <sup>®</sup> DASH	BOARD 8.6.4 ADAPTI
🖻 Statistics	5		
🗎 Event list			Edit action rule
è Hidden vehicles			
Actions	🕂 Add new entry		
₽ <mark>5</mark> 8 Rules	Plate	Nationality	
E Action Entrie	CNH237	#3 - Hotlist is now populated (merged)	
C Endpoints	CTL331	D	
🕼 Мар	CUF086	D	
D Live	BMX099	н	
	BEE853	SK	
	BLJ441	D	
	BTX963	н	
	GNL001	н	
	GAI119	SK	

fig.27: Steps to import collection of number plates registered in an CSV file for a traffic type action

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Action can be set to be executed (notification sent) if the detected vehicle or document meets / does not meet the conditions or is present / not present on the list. Activating the Exemption check box deactivates all actions for vehicles or documents assigned to that list, and pauses notifications. Multiple Exemption lists can be specified. The Action can be activated by checking the Action activated box. Saving changes is possible even if the action is not activated, in which case later activation is required.

#### PREDEFINED ACTIONS 5.3

There are two predefined actions for the Osmond document reader. These actions are schemas for the reader.

- Osmond Allowlist: allowlist for the selected documents.
- Osmond Blocklist: documents blocklist for the selected documents.

These actions are intentionally not active because they do not need to be enabled for cooperation with the Osmond document reader. They only need to be enabled if notifications are also assigned to these actions.

The contents of these lists can be modified from the Action menu.

Further information about their operation can be found in the Osmond manual.

(8) admin ⊘	≡			GDS <sup>®</sup>	DASHBOARD	8.6.4				ADAPTIN	E RECC	GNITION
년 Statistics ~	Action filter											
References	Select the table	listing	* documen	ts v	L'enderon spo							
Actions ^	Action name	none	*				none	*				
୍ଧି <sup>ଙ୍କ</sup> Rules	Start of validity	none	-				none	none 👻				
E Action Entries	Active	none	*		Exempt	tion		none	*			
🗘 Endpoints 🗸 🗸											Ē	Q
09 Мар											_	_
D Live	: Search result   🔶 Add	new action rule							×		<	1/1 >
	Action name	Evaluation type	Execute if	Exemption	Active	Notifications	Start of validity	End of validity		Schedule		
	Osmond Allowlist	Document types (+ rules)	List includes	0	0					0	0	
	Osmond Blocklist	Document types (+ rules)	List includes	0	0					0	0	ê
								Items per page: 50	Page: 1/1 S	howing: 1 - 2	K <	>
🛐 Language   English												
Settings												
G Logout												

fig.28: Predefined Osmond lists in the Actions menu



2					Edit action rule
ID	none	<b>.</b>	Timestamp	none	•
Date of birth	none	<b>.</b>	Document type	none	•
	none			none	_
Document number	none	*	Date of expiry	none	¥
Authority	none	•	Mother's name	none	•
Name	none	·	Nationality	none	•
Sex	none	*	Overall Check	none	•
					Ŵ
🕂 Add new entry				F) []   2	. I <b>C</b> < 1/1 >
New Document number Name	Date of birth	Mother's name	Document type Date of expiry	Authority	Nationality Sex
			Items p	erpage: 50 Page: 1/1 Show	ving: 0 - 0  < < >
					Cancel Submit
8		Ę	Add new entry		Cancel Submit Edit action rule
в	none	Document number **	Add new entry	none	Edit action rule
_	none			none -	Edit action rule
ID		Document number **			Edit action rule
ID Date of birth Document number Authority	none none none	Document number ** Name **	SPECIMEN000000	none -	Edit action rule
ID Date of birth Document number Authority Name	none none none none	Document number ** Name ** Date of birth **	SPECIMEN000000	none -	Edit action rule
ID Date of birth Document number Authority	none none none	Document number ** Name ** Date of birth ** Mother's name **	SPECIMEN000000	none -	Edit action rule
ID Date of birth Document number Authority Name	none none none none	Document number ** Name ** Date of birth ** Mother's name ** Document type		none -	Edit action rule
ID Date of birth Document number Authority Name	none none none none	Document number ** Name ** Date of birth ** Mother's name ** Document type Date of expiry **		none -	Edit action rule
ID Date of birth Document number Authority Name Sex	none none none none	Document number ** Name ** Date of birth ** Mother's name ** Document type Date of expiry ** Authority		none -	Edit action rule
ID Date of birth Document number Authority Name Sex Add new entry	none none none none none	Document number ** Name ** Date of birth ** Mother's name ** Document type Date of expiry ** Authority Nationality	SPECIMEN00000	none -	Edit action rule

fig.29: Add a new document entry to Osmond Allowlist or Osmond Blocklist



## 5.4 NOTIFICATIONS

In case the user decides to setup custom format for Email/SMS/Webhook/Forgotten password notification, the content of Email, SMS, Webhook and forgotten password notifications can be configured freely. The text of messages (EMAIL, SMS, Webhook, forgotten password) is specified by the user creating it and can invoke any event parameter with smart tags.

nail template	SMS template	Forgotten password template Webhook template		
Table *		multi_event	English (EN)	*
Time zone *		GMT - Date format *	dd/MM/yyyy H	H:mm:ss ▼
Subject *		!%%action.names%%!		
Content *		Action: %%action.names%%! Reason: !%%action.reason%%!	î	Edit global replacers
		Event ID: !%%record.id%%! Event Time: !%%record.timestamp%%!	•	
		Timestamp         @updated         Action list name         Action rule           adr_bgcolor         adr_coolidence         adr_frame	Action list type Notification type	
		Seatbelt image Front plate image Images Overview Rear plate image strip_Image Video	rear_cut_image	

fig.30: Compiling message content for email notification using Smart Tags

5				Add action r
Action name *	Karsten's Watchlist	Active		
Notifications *	Email (1) SMS (1)	Exemption	0	
Description	Å	Reason in message	Å	
Evaluation type	Based on condition -	Execute if	Meet the condition -	
Setup timing	Not set			
Action filter Basic	Advanced Special			
NOT 🗸 AND OR XOR				$\oplus$
category - (Category)	IN	•		Θ
				Cancel Sub

fig.31: Imaginary traffic type notification rule named as "Karsten's Watchlist" featuring email and SMS automated notifications

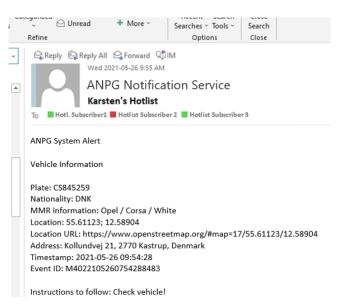


fig.32: Email notification, as it would appear in case a vehicle triggers the conditions of "Karsten's Watchlist"

Both the content and subject of the EMAIL notifications are configurable. Recipients can be defined as regular or hidden addressees (CC or BCC). It is possible to include a generated URL in the notification, so the recipient can see the location on a map with a single click.

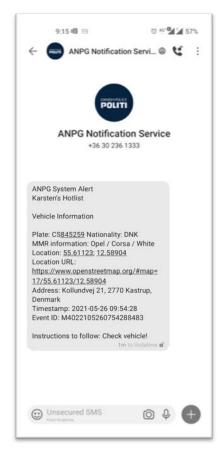


fig.33: SMS notification, as it would appear in case a vehicle triggers the conditions of "Karsten's Watchlist"

There are no restrictions associated with the number of Users who may receive Notifications, given that the Customer's email server and/or SMS provider capacity is sufficient and the number of GDS server nodes have been scaled appropriately to the expected load.

The following settings must also be set for each notification:

- Email and SMS notifications: SMTP settings (see chapter 8.1). •
- Webhook notifications: Web Server settings (see chapter 8.1). •
- Forgotten password: SMTP (see chapter 8.1) and Frontend web address settings (see chapter • 8.5)





# 6. ENDPOINT MANAGEMENT

Devices (cameras, document readers, etc.), locations, and the sections (required for average speed measurement) can be defined in the menu entry named: Devices. This function is only available to members of the Administrator user group.

## 6.1 DEVICES

There are two methods to register a device:

- During automatic registration, AR cameras and document readers automatically access the GDS based on the IP address specified on their interface. As soon as the device reaches the address, authenticates itself, and receives a response from the GDS, it sends information of device characteristics to the GDS. This data is loaded onto the device data sheet and only needs to be verified and approved by an admin-level user to start its operation.
- During manual registration, clicking the Add New Device button will pop up a blank form and the user will need to fill in the device information. This is required when registering third party devices (cameras, document readers, etc.).

	· ·											
(8) admin	ø									ADAPTI	VE REC	
Statistics Event list	ř	Device	filter									
Re Hidden vehicles		Select th	ne table		listing	•	multi_event, documents +					
Actions	~	Device II	D		none 👻		Location	none	*			
C Endpoints	^	Name	Device type		none	one   Accepted by		none 👻				
Devices		Device ty			none	*	Accepted	none 👻				
Cocations		Active			none							
A Sections											Ē	Q
🕼 Мар						_						
D Live		: 5	earch result   🕒 Add	I new device						A L P	<b>c</b> <	1/1 >
			Device ID ↑	Name	Device t	ype	Location	Accepted	Active			
			A041	A041	Trafficsp	pot Platinu	m Alkotás u. 41.	$\odot$	$\odot$	0		
			DOCA	d-DOCA	Trafficsp	pot Platinu	m Budapesti Liszt Ferenc Nemzetközi Repülőtér	$\odot$	$\odot$	0	2	
			DOCB	d-DOCB	Trafficsp	pot Platinu	m Budapesti Liszt Ferenc Nemzetközi Repülőtér	$\odot$	$\odot$	0		
🚯 Language   Engli:	sh		N039	d-N039	Trafficsp	pot Platinu	m Nagyjenő u 10.	$\odot$	$\odot$	0		
🐯 Settings			P001	Perbál Device	Trafficsp	pot Platinu	m Perbál Posta	$\odot$	$\odot$	0		
⊖ Logout			U001	d-U001	Trafficsp	pot Platinu	m Villányi út 91.	Ø	$\odot$	0		



Upon manually registering a new device, the following parameters shall be declared:

- ID Assigned by the user based on a number or name (such as a serial number) that is unique to each device.
- Name Any name given to the device assigned by the user.
- Device type Can be selected by the user from a list of specified device types or filled in freely.
- Event Table To be selected from the options provided in the drop-down menu. By default, the "multi\_event" table contains traffic data, while the "documents" table contains document data.
- Connection method To be defined based on the contact direction, depending on the communication of the device (PUSH or PULL communication protocol).

- Server URLs The server's access link is required only when the connection mode is "Server" (ws://a\_server\_address:port/url).
- Active Disabling the Active section will make the device inactive, so it will be kept registered but will not communicate with the server.
- Video URLs The RTSP link of the device (which provides video streams) is required to access the live footage (H.264) and display it in the Live section of the GUI (see Chapter 7.4).
- Location name – To be selected from existing list of Locations or assigned to a new location using the new location shortcut.

(8) admin 🕑	≡	G	GDS <sup>®</sup> DASHBOARD 8.6.4		ADAPTIVE RECOGNITION
된 Statistics ~	Device filter				
📋 Event list					
ở Hidden vehicles	Select the table		New device		
🗗 Actions 🗸 🗸	Device ID			none 👻	
& Endpoints ^	Name	Device ID *		none 👻	
Devices	Device type	Name *		none	
O Locations	Device type	Event table *	multi_event ~		
A Sections	Active	Device type *			
ФЗ Мар		Connection mode *	Client		ê ,
ට් Live	: Search result   🔶 Add new devi	Device server URLs *	Number of URLs: 0		
		Active			
	Device ID   Name	Acuve		Accepted Active	
	A041 A041	Video URLs	Number of URLs: 0 (+)	Ø Ø	1
	DOCA d-DOCA	A Location *	<b>•</b> $\oplus$	⊗	/ 🔟
	DOCB d-DOCB	3		Ø Ø	1
🛐 Language   English	N039 d-N039		Cancel Submit	0 0	0
ĝ: Settings	P001 Perbál I	Device Trafficspot Platinum Perbi	ál Posta	Ø Ø	1
🕒 Logout	U001 d-U001	Trafficspot Platinum Villár	ıyi út 91.	Ø Ø	1

fig.35: Registering a new device manually

It is also possible to accept the automatic registration of devices in the Map menu (see chapter 7.3).

#### 6.2 **I**OCATIONS

Devices are grouped by Locations, that correspond to an installation site (i.e. checkpoint or gantry). Defining locations is a pre-requirement of initiating average speed measurement feature of GDS.

New location can be added by entering latitude and longitude coordinates, or by entering an identification name. In addition to the basic data (ID, name, type, table, location), filtering between devices is also possible according to the status of registration and the person accepting it.



(8) admin	⊘	≡	c	BDS <sup>®</sup> DASHBOA	RD 6.6.0	ADAPTIV	RECOGNITION
년 Statistics	~	Location filter					
Event list		Id none	Ŧ	Lo	ngitude	none 👻	
윰 Actions	^	Location name none	Ŧ	La	titude	none 💌	
°5° Rules							ê ,2
E Plates Ô Endpoints	^	: Search result   🕘 Add new location				A L M A L K	< 1/1 →
Devices		ы	Location name 1	Latitude	Longitude	Devices	
Continue Locations		NDcuNDkyNTU=-MTkuMDlzNzE=	A41 GDS Test	47.49255	19.02371	11732B9 11743b8 (+4)	0 💼
Sections		NDcuNDky0TEy-MTkuMDlzNTY2	Alkotás u. 41.	47.492912	19.023566	Mobil App-Bucsi MMMME (+17)	/ 🗊
12 Map 13 Live		NDcuNTM0MzY0-MTkuMDc5NTc5	Frangepán u.	47.534364	19.079579	SpeedCAM Simulator #1 Frangepán u SpeedCam A9b	0
		NDcuMA==-MTcuMA==	Mobile device	47	17	Csaba phone	/ 11
		NjYuMA==-NjYuMA==	MárkLaciNorbi	66	66	Bubuka1234#A-F fsdhfsdhhfdshfd (+1)	/ ii
		NDcuMzU2NTizOA==-MTkuNDM4NjE00Q==	NORBITESZT001	47.3565238	19.4386149		0
🚱 Language   Engli	sh	NDcuNTYyNzgxNA==-MTkuMTI2NzQ0Ng==	Pelias Test	47.5627814	19.1267446		0
Settings		NDcuNTkzMDQ1-MTguNzY5MDE3	Perbal 01 - Trafficspot	47.593045	18.769017	Perbáli Trafficspot Enforcement Simulator	0 ti
G Logout		NDcuNTgzNTU3-MTguNzY2NzU0	Perbal Pole 01	47.583557	18.766754	Perbáli Enforcement #1 Perbáli Enforcement (+4)	a 🖉
		NDcuNTgzNTU3-MTguNzY5MDE3	Perbal cam test	47.583557	18.769017	Arhcam148 IntellioCam (+1)	0 m

fig.36: List of locations

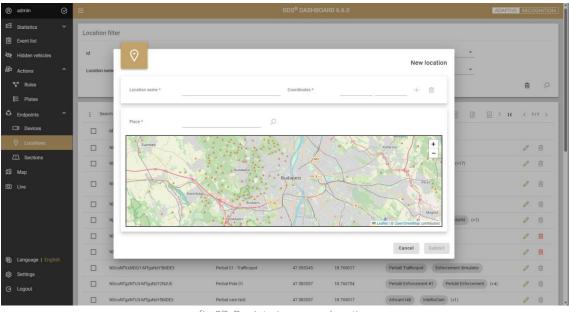


fig.37: Registering a new location

## 6.3 SECTIONS (AVERAGE SPEED ENFORCEMENT)

Globessey Data Server provides a convenient solution for certified average speed enforcement, thus efficiently promoting safe driving behavior and reducing road traffic externalities (noise and pollution) throughout the control sections – such as bridges and tunnels – that may not be feasible to cover with traditional speed traps.

Unique vehicle identifiers – plate numbers or anonymized tags – are tracked through the monitored sections (and section groups in case of multi lane roads) defined between Locations. Since Adaptive Recognition devices are registered automatically by GDS, all the operator has to do is defining the applicable driving distance and tolerance levels for average speed calculation and select the

corresponding entry & exit locations. In order to provide accurate statistics, the system only records relevant travel-times of uninterrupted journeys along each control section (the average speed and transit time are recorded for the exit event). The pairing logic of entry and exit events can be customized on the user interface, according to the application environment.

(8) admin	⊘ =		Section name						ADAPTIVE		ITION
Statistics	× I		Entry location								
Event list		<b></b>	Exit location	r	one 👻	Active	none				
Actions	~	-	Section length	r	one 👻	Maximum transition time	none	÷			
🐨 Rules		-	Active Event table	r	one 👻	Tolerance	none	*			
E Plates		-	Maximum transition time	r	one 👻	Entry devices	none	Ŧ			
Endpoints	^		Tolerance	,	one 👻	Exit devices	none	Ŧ			
Devices O Locations		-	Entry devices							Ē	Q
Sections		_	Exit devices								
🕼 Мар		: s	earch result	ew section			1 3	X	K	< 1/1	>
D Live			Section name 1		Entry location	Exit location	Section length	Active			
							eccan renger	Active			
			ASDF		Teszt helszin	Teszt helyszin - Allee 21	43.231	S	0	<u>iii</u>	
			ASDF Accepted device test		Teszt helszín Alkotás u. 41.	Teszt helyszín - Allee 21 Teszt helyszín - Allee 21			0	<b>⊡</b>	
				asz		Teszt helyszín - Allee 21	43.231	$\odot$			
			Accepted device test	asz	Alkotás u. 41.	Teszt helyszín - Allee 21	43.231	0	0	<u>iii</u>	
ন্ধ্য Language   Engli	sh		Accepted device test Advanced condition szak	39Z	Alkotás u. 41. Teszt helyszín - Allee t	Teszt helyszín - Allee 21 5222 (teszt #21) Teszt helyszín - Allee 21	43.231 111 1230	© © 0	0	<ul><li><b>□</b></li></ul>	
段 Language   Englis ② Settings 今 Logout	sh		Accepted device test Advanced condition szak Alkotás - Frangepán	89Z	Alkotás u. 41. Teszt helyszín - Allee : Alkotás u. 41.	Text helyszín - Allee 21 5222 (keszt #21) Teszt helyszín - Allee 21 Frangepán u. Perbal 01 - Trafficspot	43.231 111 1230 10000	© © O	0	₩ ₩	

fig.38: List of sections

(B) admin	${}^{\odot}$	=			GDS <sup>®</sup> DASHBOARD 8.6.4	AD/	APTIVE REC	
名 Statistics	~_	Section filter						
Event list								
X Hidden vehicles						New section		
Actions		Section name •			Event table			
C Endpoints		Sector name -			LINEE MENT			
Devices	E	Entry location *		*	Entry devices *			
Continue Locations	E	Exit location *		*	Exit devices *	*		
A Sections		Section length *		m 👻	Maximum transition time *	ms 👻	ē	
🕼 Мар								2
D Live	1	Folerance *		m 👻	Active			
		Condition Basic Ac	vanced Special				IK <	1/1 >
		Selected field    Add selecte	d field					
							ĸ	$\langle \rangle$
🛃 Language   Englis	8					Cancel Submit		_
ැලි Settings								
🕒 Logout								



Upon registering a new section, the following parameters shall be declared:

- Section Name A name that identifies the section.
- Event Table Defining the traffic table structure (currently: multi\_event). This entry is automatically filled in based on the devices on the selected entry and exit points.
- Entry Point The beginning of the section (must be added to the Locations in advance).

- Entry Devices Device selected to record at the entry point of the section, registered at the Entry Location (must be added to Devices in advance).
- Exit Location The end point of the section (must be added to the Locations in advance).
- Exit Devices Device selected to record at the exit point of the section, registered at the Exit Location (must be added to Devices in advance).
- Section Length The distance in meters between the entry and exit locations / devices.
- Maximum transit time Average speed data will NOT be calculated for vehicles passing this timeout limit.
- Tolerance Tolerance / uncertainty of the length of the road section (e.g. standard deviation of measurement).
- Active Activate or deactivate the given section.

tion filter					New section
Section name *	Section A - V		Event table	multi_event	
Entry location *	Alkotás u. 41.	-	Entry devices *	A041	-
Exit location *	Villányi út 91.	*	Exit devices *	d-U001	-
Section length *	1200	m v	Maximum transition time *	1800000	ms 👻
Tolerance *	12	m +	Active		
Condition Basic Advanced Special					
Selected field • •					
Plate × Nationality ×					
				Ca	ncel Submit

fig.40: Editing section conditions

Conditions for identifying & pairing events from two points in the section can be set up in the lower section of the editing interface, using Basic – Advanced – Special methods.

The following parameters can be selected from the list as Basic condition:

- Category
- Nationality
- License plate number
- Rear nationality
- Rear plate number

In cases the entry and exit parameters – according to which events shall be paired – are different (e.g.: first license plate for entry and rear license plate for exit), it is necessary to set the conditions on the Advanced tab by utilizing AND / OR / NOT / XOR logical operators.

In the Special menu, these conditions, and the relationships between them can be specified with SQL command. Saved sections can be filtered and exported in the same way as the Event list, and the list of columns to be displayed can be expanded by clicking on the three dots icon in the upper corner.

# 7. VISUALIZATION

## 7.1 STATISTICS

The Statistics module based on the market-leader KIBANA framework offers data visualization solution tailored to your needs. These dashboards are built up with interactive, cross-linked elements that are updated in real time as the user applies different filtering options.

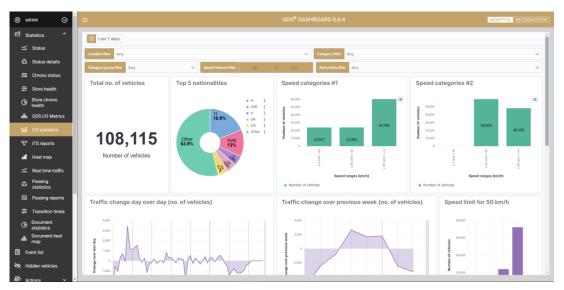


fig.41: Traffic data visualization in Statistics module

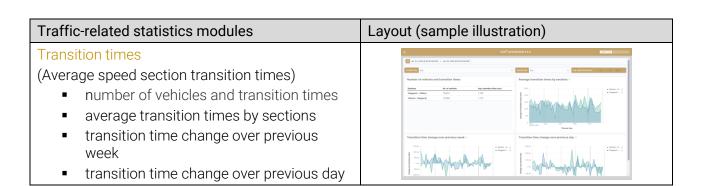
These modules are prepared to offer various graphs of time-series, pie charts, bar charts that can be displayed with arbitrarily configurable parameters, summaries, and metrics in configurable timeframe for all sorts of business intelligence activities. Relative and absolute timeframes can be applied with the help of the calendar widget in the upper corner of the statistics window.

Quick select	<	>
Last ~ 7	Days ~ Ap	oply eed interval filt
Commonly used		
Today	Last 24 hours	nalities
This week	Last 7 days	
Last 1 minute	Last 30 days	
Last 15 minutes	Last 90 days	
Last 30 minutes	Last 1 year	H 18.8%
Last 1 hour		18.8%
Recently used date ranges		
Last 7 days		SV 13

fig.42: Calendar widget for easy filtering

34/58

Traffic-related statistics modules	Layout (sample illustration)		
ITS statistics total number of vehicles top nationalities speed categories hourly traffic intensity change of traffic intensity speed offense statistics distribution of vehicle categories traffic density heatmap			
<ul> <li>ITS reports</li> <li>total number of vehicles</li> <li>average speed</li> <li>number and average speed per location</li> <li>distribution of vehicle categories</li> <li>distribution of vehicle categories per location</li> </ul>	Control         Control         Control           Image: Control         Image: Control         Image: Control         Image: Control           Image: Control         Image: Control         Image: Control         Image: Control         Image: Control           Image: Control         Image: Contro         Image: Control         Imag		
<ul> <li>Heat map</li> <li>Interactive heat map of traffic clusters</li> </ul>	2 CONTRACTOR CONTRACTO		
<ul> <li>Real time traffic</li> <li>traffic jam monitoring</li> <li>average speed</li> <li>total number of vehicles</li> <li>number of vehicles by location</li> <li>number of vehicles by category</li> </ul>	Cardenalization of values Cardenalization of values Ca		
<ul> <li>Passing statistics</li> <li>top 20 passing vehicles</li> <li>all vehicles and unique vehicles</li> <li>daily distribution of vehicles</li> <li>weekly distribution of vehicles</li> </ul>			
<ul> <li>Passing reports</li> <li>total number of vehicles</li> <li>weekly difference in vehicle count</li> <li>top 20 passing vehicles</li> <li>top 20 passing vehicles by location</li> </ul>	Conference of a solution         Conference of a solution           96,6645         Number of valuelities         Number of valuelities           ************************************		



Metrics-related statistics modules	Layout (sample illustration)		
<ul> <li>Document statistics</li> <li>total number of passengers</li> <li>number of passengers by country</li> <li>speed categories</li> <li>number of passengers by country</li> <li>document scan density heat map by device (no. of scans)</li> <li>weekly passenger flow comparison</li> <li>daily passenger flow comparison</li> </ul>			
<ul> <li>Document heat map</li> <li>geographic heat map</li> <li>number of passengers</li> </ul>	de d		

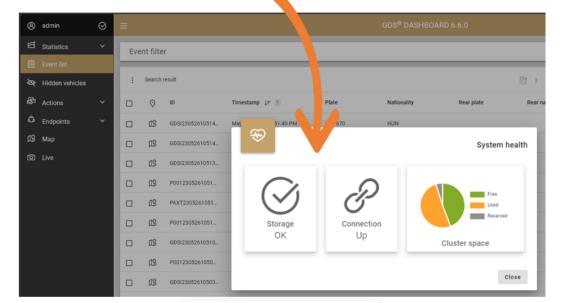


## 7.2 HEALTH REPORTING

GDS offers key status information about the host system (server) that the GDS is running on:

- database health
- connection status
- storage (Used/Free/Reserved)

(8) admin	Ø	-					GDS <sup>®</sup> DASHBO	ARD 6.6.0	
Statistics	xage sta	N Eve	ent filte	er					
🗎 Event list		-							
🗞 Hidden vehicles		1	Search	result					<u>दि</u> । [
Actions	~		0	ID	Timestamp ↓r ①	Plate	Nationality	Rear plate	Rear nat
C Endpoints	~		12	GDSI23052610514	May 26, 2023, 12:51:49 PM	HOT670	HUN		
Ф Мар			12	GDSI23052610514	May 26, 2023, 12:51:42 PM	SRN833	HUN		
D Live			12	GDSI23052610513	May 26, 2023, 12:51:30 PM	JZD402	HUN		
			12	P0012305261051	May 26, 2023, 12:51:28 PM	JZD402	HUN		
			12	PAXT2305261051	May 26, 2023, 12:51:14 PM	OUV935	UA	MQW984	UA
			12	P0012305261051	May 26, 2023, 12:51:06 PM				
			12	GDSI23052610510	May 26, 2023, 12:51:01 PM	PCS734	HUN		
			12	P0012305261050	May 26, 202 50:58 PM	PCS734	HUN		



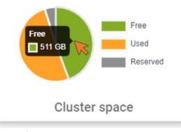


fig.43: Server status widget

In case of an issue (i.e.: no connection, storage full) the users are notified on the login screen.

Live status of registered endpoints (devices) is presented in a tabular and pie chart format on the Statistics / Status screen.

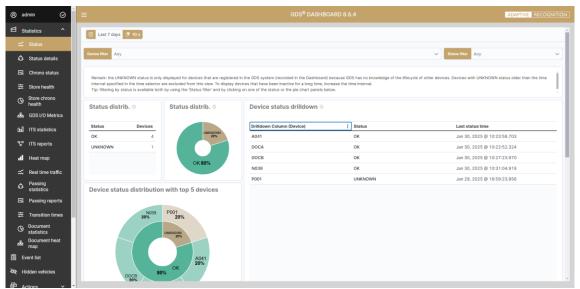


fig.44: Device live status

Live status details of registered endpoints (devices) are presented in a tabular format on the Statistics /Status details screen.

(8) ad	fmin	Ø	≡				GDS <sup>®</sup> DASH	BOARD 8.6.4			A	DAPTIVE RECOGNITIO
⊠ st	atistics	^	East 30 days									
<del>ش</del>	Status		Device filter Any		Software f	iter Any	~	Module group filter	Any	Modu	e name filter Any	
	Status detail		Parameter filter Any				tus filter Any		✓ Value filter	Any		·
ti 1	Chrono statu Store health		Parameter-level status Displays up to 10,000 in		ard. Remark: in the case	of the automatically gene	rated and the UNKNOWN	statuses, there are no pa	arameter level results.			ĺ
୍ତ &	Store chrono health GDS I/O Met		GDS Status - Gr	oup Level Param	eter Breakdown	(click on a link to	o apply filters)					
60	ITS statistics		Device	Software	Module group	Module Name	Parameter	Status	Value	Unit	Warning interval	Critical interval
	ITS reports		GLOB19-PC0-0002 - NorbiPcBudapest	CPU Load	System	CPU Load	CPU Load	ОК	1	%	[70.000000 → 90.000000]	[91.000000 → 100.000000]
	Heat map		GLOB19-PC0-0002 - NorbiPcBudapest	DiskUsed_C:	System	DiskUsed_C:	DiskUsed_C:	ок	77,64	%	[90.000000 → ~]	[95.000000 → ~]
	Real time tra	affic	GLOB19-PC0-0002 - NorbiPcBudapest	DiskUsed_D:	System	DiskUsed_D:	DiskUsed_D:	ОК	49,45	%	[90.000000 → ~]	[95.000000 → ~]
۵	Passing		GLOB19-PC0-0002 - NorbiPcBudapest	Memory_Used	System	Memory_Used	Memory_Used	ок	59,85	%	(empty)	[95.000000 → 100.000000]
	statistics Passing repo	orts	GLOB19-PC0-0002 - NorbiPcBudapest	Network_Usage_Byte s	Networking	Network_Usage_Byte s	Network_Usage_Byte s	ок	3306945515	bytes/sec	(empty)	(empty)
#	Transition tir		GLOB19-PC0-0002 - NorbiPcBudapest	Service Dnscache - Status	(empty)	Service Dnscache - Status	Service Dnscache - Status	ок	1	(empty)	(empty)	(empty)
G	Document statistics		GLOB19-PC0-0002 - NorbiPcBudapest	Service Netlogon - Status	(empty)	Service Netlogon - Status	Service Netlogon - Status	ок	1	(empty)	(empty)	(empty)
6 <b>8</b> 2	Document he	eat	GLOB19-PC0-0002 - NorbiPcBudapest	TCP_Connections	Networking	TCP_Connections	TCP_Connections	ок	262	(empty)	(empty)	(empty)
📋 Ev	vent list		PHSC-PC1-0001 - PhenakistoscopePC	CPU Load	System	CPU Load	CPU Load	ок	1	%	[70.000000 → 90.000000]	[91.000000 → 100.000000]
<b>ХО</b> Р НІ	idden vehicles	s										
නි <sup>1</sup> බැ	ctions	v •			<i>C</i> .	45 D .	12	1.1.1				

fig.45: Device live status details



Chronological status of registered endpoints (devices) is available on the Statistics / Status screen.

🖲 admin 🛛 🖉	1	GDS <sup>®</sup> DAS	HBOARD 8.6.4	ADAPTIVE	RECOGNITION
☑ Statistics ^	👼 Last 30 days				
式 Status	Drilldown Column (Original Timestamp UTC + Device)	Status	Local Time	Device	î
👶 Status details	2025-01-30 09:31:04 > N039	ок	Jan 30, 2025 @ 10:31:04.919	N039	
🖂 Chrono status	2025-01-30 09:27:23 > DOCB	ОК	Jan 30, 2025 @ 10:27:23.970	DOCB	
去 Store health	2025-01-30 09:23:58 > A041	ОК	Jan 30, 2025 @ 10:23:58.703	A041	
	2025-01-30 09:22:52 > DOCA	ОК	Jan 30, 2025 @ 10:22:52.324	DOCA	
G Store chrono health	2025-01-30 09:22:19 > N039	ОК	Jan 30, 2025 @ 10:22:19.878	N039	
6DS I/O Metrics	2025-01-30 09:18:17 > DOCB	ОК	Jan 30, 2025 @ 10:18:17.712	DOCB	
ITS statistics	2025-01-30 09:15:43 > A041	ОК	Jan 30, 2025 @ 10:15:43.636	A041	
_	2025-01-30 09:13:34 > N039	OK	Jan 30, 2025 @ 10:13:34.848	N039	
°⊑° ITS reports	2025-01-30 09:13:22 > DOCA	OK.	Jan 30, 2025 @ 10:13:22.250	DOCA	
I Heat map	2025-01-30 09:09:11 > DOCB	ОК	Jan 30, 2025 @ 10:09:11.641	DOCB	
式 Real time traffic	Device status 0		Device status - percentage of occur	00000	
Passing statistics				ences o	
Passing reports	3	<ul> <li>Status: OK</li> <li>Status: Warning</li> </ul>	100%	<ul> <li>Stat</li> <li>Stat</li> </ul>	us: OK
	25	Status: Critical     Status: Unknown	80%		us: Critical us: Unknown
O Document statistics	2		80%		
Document heat map	51 1.5		40%		
🗎 Event list	1				
₩ Hidden vehicles	0.5		20% -		

fig.46: Device chronological status

Live status of the underlaying database clusters and nodes is available on the Statistics / Store health screen.

® admin ⊘	Î =			ADAPTIVE RECOGNITION
e Statistics ^	📋 Last 7 days 🤔 10 s			Î
ోహ Status టీ Status details	Node filter Any		✓ Status filter Any	~
Chrono status	Storage health distr. ③	Storage health distribution with top 5 nodes	Storage health distribution	
		• OK	Status Nodes	
G Store chrono health			ок 1	
品 GDS I/O Metrics				
Del ITS statistics		OK		
ୟଟି ITS reports	OK 100%			
II Heat map		Storage node health drilldown		
式 Real time traffic	Total number of nodes 🛛 🌐	storage note nearth unitdown		-
A Passing statistics	1	Drilldown Column (Cluster + Node) Status	Last status time	
Passing reports		elasticsearch38 > es-node38 OK	Jan 30, 2025 @ 10:44:26.00	0
韋 Transition times	Critical status nodes 🔬			
G Document statistics				
Document heat map	Warning status nodes			
🗎 Event list	0			
Nidden vehicles	Unknown status nodes 🔬			

fig.47: Database live status



Chronological status of the underlaying database cluster and nodes is available on the Statistics / Store chrono health screen.

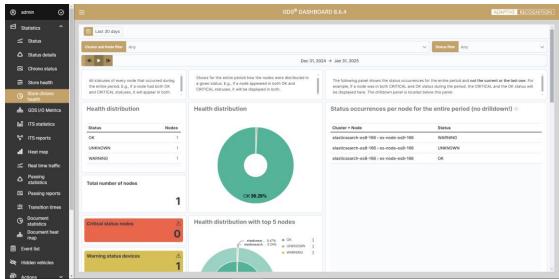


fig.48: Database chronological status

I/O metrics of the GDS is available on the Statistics / GDS I/O metrics screen.

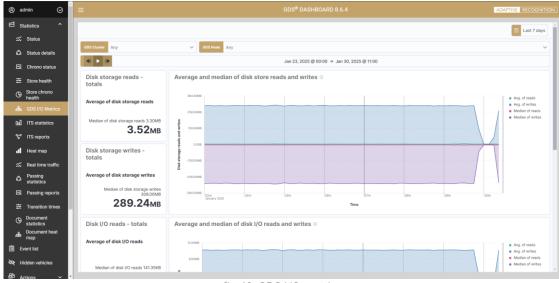


fig.49: GDS I/O metrics



#### 7.3 MAP VIEW

The Map interface is used to present the registered locations. The specified locations on the map are indicated by marker pins. The color of the pins reflects the status of the devices assigned to that location (status that the system receives from the current monitoring system) and the number inside corresponds to the number of devices presenting that status.

- Blue The number of devices that have been automatically registered but not yet accepted .
- Green Number of devices with OK status
- Orange Number of devices with Warning status
- Red Number of devices with Critical status .
- Gray Number of devices with Unknown status

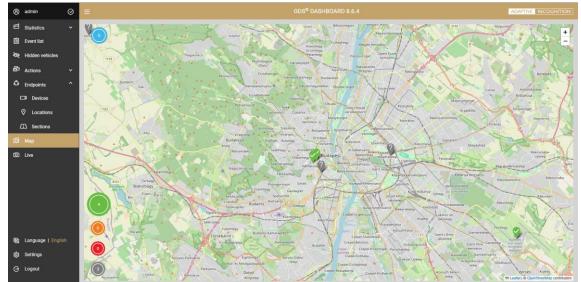


fig.50: Locations on Map view

Click on the markers to see the list of devices assigned to that location. The information about the devices that appears here are ID, Name, and Status. (The color of the pins for each endpoint locations are determined by the worst-performing device at that endpoint.)

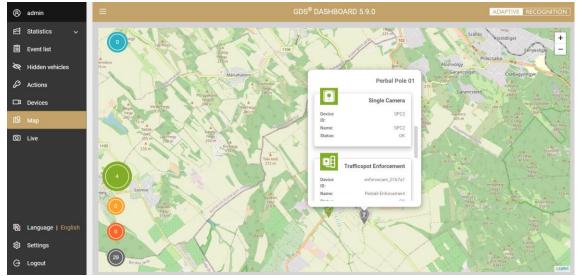


fig.51: Devices listed on the selected Location



## 7.4 LIVE VIEW

Video streams of configured devices can be accessed via the Live menu entry, by selecting the Location and the specific Device from the list. A device that provides multiple streams can be displayed in parallel windows. Streams show the live footage, followed by events that are recorded continuously during the session and displayed in a tabular form similar to the Event list. As a result, real-time events can be tracked in live video streams.

realized.	****							-		Notes						
de riterre	11.09	-														
			-		-											
			-	12th	3/		1ª									
			1.1		11 15		1155									
			100	- 1	10	14	7 -									
			6													
			ć													
			¢			//								_		
ürren.	Names	-	1	2	nin and a state of the state of	//	And the second		Average gent		-	tanta ta			Action Rel Source	Burban Subsect
	Neuroscieg operation and a set of the			2 12		//	And one		100p	ranska Merika v M		ladarda (				Baddall Badward Barw
	Jacid Bold Coller	-			and a starting		MH CHART		forsp gest	Adventure of		ladarda i	lasfestet			tabled

fig.52: Live view

The displayed content of record metadata can be configured by clicking on the three dots ( Hide/Show Columns) in the upper corner.

(8) adr	min	⊘ ∎		ID	Î		GDS <sup>®</sup> DASHE	30ARD 8.6.4		ADAPTIV	RECOGNITION
🖻 Sta	atistics	×	~	Timestamp							^
🗎 Eve	ent list		~	Plate	Alkotás u. 41.	*		Device	A041 -		
🗞 Hid	lden vehicles		~	Nationality							
🗗 Act	tions	~	~	Rear plate		*					
🗘 Enc	dpoints	·	~	Rear nationality	<u> </u>						
ØØ Ma	ıp		~	Category							
🖸 Live	e		~	MMR category	mestamp	Plate	Nationality	Rear plate	Rear nationality	Category	MMR catego
			~	Speed	in 31, 2025, 4:54:21	H0G500	PL	QJK704	PL	ب بنینی:	
			~	Average speed	ın 31, 2025, 4:54:06	DXV173	PL	KQA297	PL	يان	
			~		an 31, 2025, 4:53:51	L0A636	CZ	D0Q653	CZ	<u> -</u>	
					an 31, 2025, 4:53:36	IBH980	CZ	MWP692	CZ	a <b>110</b> .00	
				Detector	an 31, 2025, 4:53:21	DAR931	RO	XTE426	RO	<del></del>	
					ın 31, 2025, 4:53:06	VVT283	D	TZD471	D	ê	
				Action list name	ın 31, 2025, 4:52:51	URB664	RO	NTZ792	RO	4 <b>11</b> 1 111	
	nguage   English		~	Seatbelt fastened	ın 31, 2025, 4:52:36	PQE945	A	OSX008	A	<i></i>	
	ttings		~	PAX total	an 31, 2025, 4:52:21	DJK992	н	PJF678	н	<u>.</u>	
🖯 Log	gout		~	PAX confidence	in 31, 2025, 4:52:06	TVF036	UA	RQY280	UA	æ	
						nfiquring th	ne list of re	eal-time rec	ords		

### () Important!

Some portable/handheld GDS compatible device - e.g.: Carmen Mobile, ARH S1 - does not provide live image stream to be displayed on the Live menu of the Dashboard.

# 8. CONFIGURATION

Under the hood setting prepared for system administrators can be found in the menu entry named: Settings. This function is only available to members of the Administrator user group.

Menu items can be expanded and minimized by clicking on their respective headers.

(B) admin	⊘	≡ GDS® DASHBOARD 8.6.4	ADAPTIVE RECOGNITION
包 Statistics	~	Servers	~
Event list		Templates	~
₹ Hidden vehicles		Templates	
Actions	~	Replacers	v
C Endpoints	^	AR Cloud settings	~
Devices		Map settings	~
Sections		PDF font settings	~
19 Мар		Dashboard public web addresses	~
D Live		GDS user management	~
		Evaluative module settings	~
		Authentication	~
		Embedded settings	~
🔁 Language   Englis	h		
ĝ Settings			
⊖ Logout			

### fig.54: Content of the Settings menu

## 8.1 NOTIFICATION SETTINGS

The configuration of e-mail, SMS, Webhook (structure of messages generated by the Actions) and lost password message templates are available here, including the server settings and the creation of message content. Step-by-step description of sample settings can be found in the Appendix.

Servers section contains the list of email or SMS gateway servers and Webhook web servers. New SMTP servers can be registered by clicking on Add server button on the SMTP servers / Web servers tab.



8	admin	0	≡	GDS <sup>®</sup> DA	SHBOARD 8.6.4		ADAPTIVE	RECOGN	IITION
	Statistics Event list	~	Servers SMTP servers Web serve	15					^
R	Hidden vehicles		Add server				K <	1/1 >	
	Actions	~	SMTP host address SMTP hos	port Transport security code	Address format criteria	Server type			
٩	Endpoints	^	smtp.office365.com 587	SMTP_TLS	DEFAULT	email 🧷 🕞 戻			
	□ Devices					Items per page: 50 Page: 1/1 Showing: 1-	1 <b>K</b>	< >	
	Locations								- 1
	Sections								_
۵۵	Мар		Templates						~
Ø	Live		Replacers						~
			AR Cloud settings						~
			Map settings						~
			PDF font settings						~
屘	Language   Englis	h	Dashboard public web addresses						~
¢	Settings		GDS user management						~
	Logout		Evaluative module settings						~

fig.55: SMTP server's settings

S 🕂 Add server					IK <
					Add server
Server type * SMTP host address * Transport security code * Parallel sending * Authentication Remember these values, because you must reenter t SMTP user *	email	<b>*</b>	Sender *	arexample@gmail.com	
SMTP host address *	smtp.gmail.com		SMTP host port *	587	
Transport security code *	SMTP_TLS	<del>*</del>	Address format criteria *	DEFAULT -	
Parallel sending *	1		SMS suffix *		
Authentication					
Remember these values, because you must reenter t	hem each time you edit th	e server.			
SMTP user *	arexample@gmail.com		SMTP password		
- Dr. fork ocknings				C	ancel Save

fig.56: Adding new SMTP email server (sample)

After clicking on Save, the registered server appears in the list. The server configuration allows to set the number of outgoing notifications at the same time (parallel sending), the standard of address format, SMTP user credentials, and the suffix of the SMS gateway server (containing the domain to be placed after the mobile phone number, e.g. @ sms.clicksend.com) within the SMS suffix field.

Transport security code can be designated as

- SMTP standard protocol for sending messages between servers
- SMTPS secured SMTP by providing authentication of the communication partners using SSL
- SMTP\_TLS secured SMTP by providing authentication of the comm. partners using TLS

Depending on the network topology, unencrypted SMTP communication can be susceptible to attacks, such as the contents of a message modified or rerouted to a malicious party.

The address format criteria shall be selected as:

- RFC\_COMPLIANT Messages comply to the RFC standard published by IETF.
- DEFAULT – In addition to RFC compliance, the following restrictions are applied:
  - o Disallow IP Address Domain: emails with an IP address in their domain are often rejected from mail servers or only used for spam.
  - o Require a Top Level Domain: This rule reject all emails without a TLD (top-level domain, or "suffix") as recommended by ICANN.
  - o Disallow Explicit Source Routing: Explicit source routing has been deprecated as of RFC 5321, thus should not be used.

Users are encouraged to select the default address format criteria, except under special/unusual circumstances, when the highlighted restrictions must be bypassed.

### ]) Important!

Setting up the SMTP Server is fundamentally necessary for the forgotten password feature to work, since it is an email-based notification.

New web servers for the Webhook notifications can be registered by clicking on Add server button on the Web servers tab.

(8) admin	$\odot$	≡ GDS® DASHBOARD 8.6.4	
E Statistics		Servers SMTP servers Web servers	^
🗎 Event list			
Ridden vehicles		⊕ Add server	< 1/1 >
Actions		Web server name Web server url	
C Endpoints		gdws https://192.168.254.123.8758/sample_web_server/request 🧷 😑	
Devices		Items per page: 50 Page: 1/1 Showing: 1-1	IC < >
O Locations			
A Sections			
🕼 Мар		Templates	~
O Live		Replacers	~
		AR Cloud settings	
		Ak cloud settings	~
		Map settings	~
		PDF font settings	~
🛐 Language   Engl	ish	Dashboard public web addresses	~
ැබූ Settings			-
🕒 Logout	_	GDS user management	~
		Evaluative module settings	





			Add server
Web server name *	Sample Web Server #1	Web server url *	https://192.168.254.123:8
Authentication	•		
Remember these values, because you	must reenter them each time you edit the server.		
Username		Password	
			Cancel Save

fig.58: Adding new Web server (sample)

After clicking on Save, the registered server appears in the list. The server configuration allows to set the URL of the web server and the authentication properties. Both HTTP and HTTPS communication are supported.

Templates interface enables to set the local time zone and date format. Subject and Body text of Email, SMS and forgotten password notifications can be submitted here with the help of smart replacers. Default templates are available upon clean installation.

8	admin	$\otimes$	≡		GDS <sup>®</sup> DASHBOARD 6.6.0		ADAPTIVE RECOGNITION
ø	Statistics			Servers			~
Ê	Event list		F				
\$Ø	Hidden vehicles			Templates			^
₿¤	Actions		١.	Email template SMS template Forgotte	password template Webhook template		
۵	Endpoints						
۵9	Мар			Table *	multi_event - Locale *	English (EN)	
Ø	Live			Time zone *	GMT - Date format •	dd/MM/yyyy HH:mm:ss 👻	
Rh	Language 1. Epole			Subject * Content *	N-Action names/N-I Action: IN-Action names/N-I Resour: IN-Action resources/N-I Event ID: N-Vaccion Java Event ID: N-Va	·	lit global replacers
	Language   Englis	h				Delete	evert Submit
	Settings						
G	Logout		-	Doplagara			

fig.59: Email templates settings

Note, that the Reason data field defined while creating Actions (see chapter 5.1) can be inserted into the content of the notification, hence a unique message is sent out depending on the type of the Action rule.

8	admin	${}^{\odot}$	≡	GDS <sup>®</sup> DASHBOARD 8.6.4	
	Statistics		Servers		~
	Event list		Templates Email template	SMS template Forgotten password template Webhook template	^
ي م	Hidden vehicles				
٩	Endpoints		Table *	multi_event v Locale * English (EN)	• •
C	⊐¤ Devices		Time zone *	Etc/UTC - Date format * dd/MM/yyyy HH.m	miss 👻
	Cocations				
_	<ol> <li>Sections</li> <li>Map</li> </ol>		Subject *	特%action.names%%l	
	мар Live			Action: %%action.names%%i Reason: %%action.reason%%i	Edit global replacers
				Event ID: N/srecord.jdN/s/ Event time: N/srecord_@timestampN/s/	
				Timestamp Supdated Action list name Action rule Action list type Notification type adr.bqcolor adr.confidence adr.frame More.	
慰	Language   Englis	sh		Delete Re	evert Submit
\$	Settings				
Θ	Logout		Replacers		~
			AR Cloud settings		

fig.60: SMS templates settings

8	admin	Ø	≡	GDS <sup>®</sup> DASHBOARD 8.6.4	ADAPTIVE RECOGNITION
	Statistics		Servers		¥
Ê	Event list		Templates Email template SMS tem	nplate Forgotten password template Webhook template	^
Ŕ	Hidden vehicles				
ŝ	Actions		Locale *	English (EN) 👻	
\$	Endpoints		Time zone *	Etc/UTC - Date format * dd/MM/yyyy HH:m	
03	Мар			Etc/UTC	m.ss •
	Live		Content *	GDS lost password notification         Dear IN%record login_name%%!!         You recently requested a password reset for your GDS account. To complete the process, please click the link please         Powlost_password link%?         email       login_name         Forgotten password link	Edit global replacers
	Language   Englis	sh		Delete	svert Submit
	Logout				
G	Logout		Replacers		~

fig.61: Forgotten password template settings



8	admin	Ø	≡	GDS <sup>®</sup> DASHBOARD 8.6.4	ADAPTIVE RECOGNITION
8	Statistics		Servers		~
Û	Event list				
ইছ	Hidden vehicles		Templates Email template S	MS template Forgotten password template Webhook template	^
\$ª	Actions		Table *	multi_event - Locale • English	(EN)
۵	Endpoints			Instruction and a second and as second and a	
۵2	Мар		Time zone *	Etc/UTC - Date format * yyyy-MM	A-dd HH:mm:ss 👻
Ø	Live		Content *		
			Coment ~	Unix line feed	
					Edit global
					replacers
					4
				Timestamp @updated Action list name Action rule Action list type Notification type	
				adr_bgcolor adr_color adr_confidence adr_frame More	
				antañoun antonn antonnona antunno	_
				Seatbelt image Front cut image Front plate image Images images_section_entry	
8	Language   Englis	sh		left_images         Overview image         rear_cut_image         Rear plate image         right_images         More	
G	Logout			Delete	Revert Submit

fig.62: Webhook template settings

Replacers interface lists the available 'interactive components' used to build the textual contents of the notifications.

~					
<b>8</b> a	idmin	$\odot$	Replacers		^
⊠ s	statistics	~			
🗎 E	vent list		Table	multi_event - Locale	English (EN)
<b>Х н</b>	lidden vehicles				
ቆ ⊿	Actions	~	Default missing value	not set	
🕹 E	indpoints	×	Field	Default missing value Replacer tags	
119 N			@timestamp		0
ΟL	ive		@updated		Ø
			action_groups		0
			action_rules		0
			action_type		0
			actions		0
			adr_bgcolor		0
			adr_color		Ø
B1 L	anguage   Englis.	h	adr_confidence		Ø
¢ې s	ettings		adr_frame		Ø
Θι	ogout		adr_text		0
			adr_type		0

fig.63: Replacers settings

In addition to invoking the given metadata of the record into the notification, Replacers are subject to be assigned with default missing value (to be displayed in case a specific field of a record is empty) and smart tags. This way the GUI presents the user with human readable information instead of coded or boolean type information.

<b>C D</b>		Edit	replacers	۲ ک		Edit r	eplac
				311	Van with trailer	0	Ŵ
	Default missi			320	Pickup van	Ø	Ē
(+) Add replacer		anabic		321	Pickup van with trailer	Ø	Ŵ
Original value	Replace value			330	Caravan	Ø	Û
				331	Caravan with trailer	Ø	Ŵ
-1	unknown	Ø	Ū.	340	Semi-trailer van	Ø	Ŵ
1	not fastened	0	<u>ا</u>	410	Truck	Ø	Ŵ
0	6	R	<u> </u>	411	Truck with trailer	Ø	Ŵ
0	fastened	6	<u> </u>	420	Dump truck	Ø	Ŵ
				421	Dump truck with trailer	Ø	Ŵ

fig.64: Using replacers to make event information human readable

Replacers can be configured to reflect the professional terminology commonly used by the clients. Note: in the case of a Webhook (and only in the case of a Webhook), the type of the replacer field content must match the type of the original table field. For example, in the case of an integer type, only an integer value can be specified.



#### 8.2 **AR CLOUD SETTINGS**

With the API key registered on the Carmen Cloud web interface (carmencloud.com), the user can configure the Cloud service to automatically send data recognized from submitted images to the GDS via Webhook protocol. All related settings can be performed on the frontend interface. Additionally, it can be configured which data from Cloud services should be stored, and the mapping between the fields of the submitted data and the GDS fields can be freely configured. For troubleshooting purposes, an error log is available, and simple statistics can also be accessed.

8	admin	$\oslash$				ADAPTIVE RECOGNITION
	Statistics Event list		Servers			~
	Hidden vehicles		Templates			~
ß	Actions		Replacers			~
	Endpoints Map		AR Cloud settings	bbA	.PI key	^
Ó	Live		API key	Name *		
			API service	API key * AR Cloud url *	status	
			Map settings	Cancel	Save	~
			PDF font settings			~
			Dashboard public web addresses			×
	Language   Englis	sh	GDS user management			~
	Settings Logout		Evaluative module settings			~

fig.65: AR Cloud settings



## 8.3 MAP SETTINGS

A map tile service uses standard protocols for serving pre-rendered or run-time computed georeferenced map tiles over the network that is recognized across different platforms and clients. GDS Dashboard uses this service to display the world map – background layer – for geo-fencing (location-based filtering of events) and enable device management on map view.

On leaflet settings, the map tile server can be specified along with the GPS coordinates and zoom level of the position that is displayed by default when opening the map. Map data reloading field defines the update interval of the map tiles. The map server must support Leaflet API (see <u>reference</u>).

Leaflet settings Pelias settings				
Map enabled		Tile server url *	https://{s}.tile.openstreetma	p.org/{z}/{x}/{y}.png
Start zoom level *	11	Center latitude *	47.492983	
Center longitude *	19.023988	Map data reloading *	30000	S

fig.66: Leaflet settings for Map view

On Pelias settings section, the geocoder service URL can be specified. In case no has been registered, or the registered geocoder service is not available, then an alert is indicated on the geographical event filter interface (see chapter 3.4). GDS Dashboard is compatible with <u>Pelias</u>, a modular, open-source geocoder built on top of Elasticsearch for fast and accurate global search.

Map settings				^
Leaflet settings	Pelias settings			
Pelias url		https://gds-dev.inet.arip.hu/9080		
			Revert Submit	

fig.67: Geocoder (Pelias) settings for geo filtering

Map filter	Circle	Rectangle	Polygon	Freehand drawing
Location *	Liszt	▼ ∔ Coordin	ates *	+
Alsozsoica	Budapest Liszt Ferenc Interr	national Airport	Nyirmada	
dădhăza	Budapest Liszt Ferenc Nema		thăza	
		100	Fener	gyarmat

fig.68: Search results of geocoder engine

The proper operation of the geocoder service can be checked by opening the event filter and initiating a location search within the pop-up window.

#### 8.4 PDF FONT SETTINGS

The fonts of the PDFs to be exported can be uploaded in this menu item (TTF font formats only). By adding new typefaces, the use custom fonts can be achieved, including special character sets, such as Arabic. The uploaded fonts can be named individually, and in addition to the normal font, bold versions can also be uploaded, thus providing better legibility of the exported tables.

8	admin 🥝	3									-
8	Statistics 🗸		ARO	Cloud settings							~
	Event list		Мар	settings							~
	Hidden vehicles		PDF	font settings							^
§.	Actions ~										
۵	Endpoints 🗸			🕀 Add new font	Default PDF font Roboto			K	< 1/1	>	- 1
۵۵	Мар			Name		Font options					- 1
Ø	Live			IntelOneMono		Normal Bold	<u>in</u>				- 1
				Roboto		Normal Bold	Ŵ				- 1
							Items per page: 50 Page: 1/1 Show	wing: 1 - 2	<	>	
							Items per page: 50 Page: 1/1 Show	wing: 1 - 2	<	>	
			Dasl	hboard public web	o addresses		items per page: 50 Page: 1/1 Shov	wing: 1 - 2	<	>	×
				hboard public web			Rems per page: 50 Page: 1/1 Shov	wing: 1 - 2	<	>	~
_			GDS		nt		Items per page: 50 Page: 1/1 Shov	wing: 1 - 2	<	>	-
	Language   English		GDS Eval	user managemer uative module set	nt		Rems per page: 50 Page: 1/1 Shov	wing: 1 - 2	<	>	~
	Language   English Settings		GDS Eval	user managemer	nt		Rems per page: 50 Page: 1/1 Shov	wing: 1 - 2 K	<	>	~
\$			GDS Eval Auth	user managemer uative module set	nt		Rems per page 50 Page 1/1 Shov	wing: 1 - 2   <b>C</b>	<	>	~

fig.69: PDF font settings

#### 8.5 WEB ADDRESS SETTINGS

Multiple public IPs and PORTs can be declared by system administrators in this section to access:

- GDS backend
- GDS frontend
- GDS WebSocket interface

from outside the local network of the server. Addresses can be created by clicking the Add new address button and filling in the name and URL. Existing addresses can be shared with on-screen generated QR code by clicking the ( 58) button.

### () Important!

Specifying the Backend web addresses is necessary for the links to attachments (images, videos, etc.) sent in notifications to work. Setting the Frontend web addresses is essential for the forgotten password feature.



8	admin	Ø	≡ GDS <sup>®</sup> DASHBOARD 8.6.4	ADAPTIVE RECOGNITION
8			Servers	~
	Event list Hidden vehicles		Templates	~
_ ₽	Actions		Replacers	~
٩	Endpoints		AR Cloud settings	~
۵9	Мар		Map settings	
Ø	Live		mah serrings	
			PDF font settings	~
			Dashboard public web addresses Backend web addresses Frontend web addresses GDS websocket addresses	^
			⊕ Add web address	
			Name URL	
			Standard Backend Web Address http://192.168.254.166.80 🧷 関 🍵	
				Revert Submit
图	Language   Englis	sh		
\$	Settings		GDS user management	~
G	Logout		Evaluative module settings	~

fig.70: Public web address settings

8	admin	${}^{\odot}$	≡	GDS <sup>®</sup> DASHBOARD 8.6.4	ADAPTIVE RECOGNITION
8			Servers		~
i ا ا	Event list Hidden vehicles		Templates		~
윩	Actions		Replacers		~
\$	Endpoints		AR Cloud settings		~
12 で	Map Live		Map settings	Add web address	~
			PDF font settings		~
			Dashboard public web ac	-ket addresses	^
			+ Add web address	Cancel Add	
			Name	UKL	
			Standard Backend Web Address	http://192.168.254.166:80 🧷 🗱 💼	
_					Revert Submit
<b>國</b>	Language   Englis	sh			
		_	GDS user management		~
Ģ	Logout		Evaluative module settings		· .

fig.71: Adding a new web address



fig.72: Details of an existing web address



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#### 8.6 **EXTERNAL CLIENTS**

External systems (other GDS servers or custom 3rd party business intelligence) can be authorized to access the GDS in GDS user management section, by defining hook-rule and insert-rule tables.

🕂 Add new GDS user				
Username	Hook rule tables	Insert rule tables		
the_chosen_one	multi_event	multi_event	2 <del>i</del>	
kiskutya_kiscica	multi_event		2 <del>i</del>	
teszt	multi_event	multi_event	e 10 10 10 10 10 10 10 10 10 10 10 10 10	

fig.73: GDS user management

#### 8.7 EVALUATIVE MODULE SETTINGS

Connection limitations for the GDS Evaluative module (which is responsible for evaluating actions and sending notifications) may be set under the Evaluative module settings.

E	valuative module settings	Web client settings			^
	Connection timeout *	5000	Request timeout *	0	ms
					Revert Submit

fig.74: Evaluative module settings

#### LDAP AUTHENTICATION 8.8

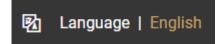
The GDS Dashboard provides the option for users to log in using the LDAP protocol instead of the built-in authentication system. The necessary settings for this can be configured on this interface.



8	admin (•	3	Evaluative module settings		*
ß	Statistics	~	Authentication LDAP		^
	Event list		Enabled		
Ŕ	Hidden vehicles		LDAP server connection		
ß	Actions	~			
۵	Endpoints	~	LDAP host address *	<u> </u>	
19	Мар		Pool size		
Ó	Live		LDAP driver		
			Timeout	10000	
			TIS	0	
			Certificate-based authorization	0	
			Certificates	Everybody granted	$\oplus$
			Start TLS	0-	
			Verify Hostname		
函	Language   English		LDAP search condition		
¢	Settings		User Base		P.
θ	Logout		User filter		Ċ
			fig.7	'5: LDAP settings	

#### **DISPLAY LANGUAGE** 8.9

Interface language can be changed any time by clicking on the available display languages on the menu bar.





## 9. APPENDIX

### System Requirements

Supported operating systems	64-bit Windows environment (Windows Server 2019/2022, Windows 10/11) 64-bit Linux distributions (Ubuntu, Red Hat Enterprise, Fedora) with systemd (system and service manager)
Supported platforms	x86_64   PPC
CPU requirements	4 cores/8 threads, 2.5 GHz (Recommended: 6 cores/12 threads, 3.5 GHz)
Memory requirements	16 GB RAM (Recommended: 32 GB RAM)
Network connectivity	1 Gigabit Ethernet interface for every network the server is connected to, appropriate routing between the site(s) and the server
System storage*	Min. 128 GB
Event storage*	Depends on traffic volume Contact AR for more details
Licensing	Licensing based on number of devices Contact AR for a quote
User interface	Mainstream browsers (Chrome, Firefox, Edge)
Development tools (underlying technologies)	Java, Elasticsearch, Spring WebFlux, Angular, Kibana
Supported programming languages for integration	SDK available for Java, C++, C#, python, php **

\* The system and events can be stored on the same storage medium.

\*\* SDK examples available online: https://github.com/arh-eu/gds#sdk-examplesSimulator project is also accessible on our GitHub page (simulating standard GDS communication, receiving messages and sending a regular responses, serving PUSH communication): https://github.com/arh-eu/gds-server-simulator

System requirements are calculated for a typical application scenario.

For more on integration and development, visit https://github.com/arh-eu/gds

### Online Document and Video Library

An up-to-date version of this manual and a series of practical examples (including the configuration of SMTP email and SMS server, and setting up Actions on basic and advanced level) are available as guided video tutorials on our website:

https://adaptiverecognition.com/doc/



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AR Technical Support System (ATSS) is designed to provide you the fastest and most proficient assistance, so you can quickly get back to business.

Information regarding hardware, software, manuals, and FAQ are easily accessible for customers who previously registered to enter the dedicated ATSS site. Besides offering assistance, the site is also designed to provide maximum protection while managing your business information and technical solutions utilized.

### New User

If this is your first online support request, please create an account by clicking on this link.

### **Returning User**

All registered ATSS customers receive a personal access link via e-mail. If you previously received a confirmation message from ATSS, it contains the embedded link that allows you to securely enter the support site.

If you need assistance with login or registration, please contact <u>atsshelp@adaptiverecognition.com</u> for help.

