



# Lince

SCALABLE SOLUTION FOR ANY PROJECT SIZE

# Integration



#### Pumatronix Equipamentos Eletrônicos Ltda.

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# **Revision History**

Date	Revision	Updated Content
03/06/2024	1.0	Edition regarding the initial version of the Lince system



# **Overview**

LINCE is an **Electronic Fencing** platform that utilizes the Amazon AWS (Amazon Web Services) cloud infrastructure, distributed and commercialized in the Software as a Service (SaaS) model, where Pumatronix is responsible for all the necessary infrastructure for system availability, and the client uses the software via the internet, paying a fee for the service. The result is a **robust solution with a high level of security in managing the information** and data collected from capture points and also from user data.

The solution proposed by LINCE is a distributed architecture with **intelligent equipment** installed on streets and highways **capable of detecting**, **classifying**, **and reading vehicle license plates within images**. Once the information is collected by the equipment, it is sent to the platform to provide additional functionalities for users.

LINCE allows users to **search records** by capture point (each capture point corresponds to a geographic coordinate), capture device, date and time, license plate, make, model, color, and vehicle class, among others. It also allows users to access reports, analytics, dashboards, and big data mechanisms on the mass of vehicle records.

The platform access portal and integration APIs have a secure HTTPS communication protocol with TLS 1.2, ensuring security in the exchange of information between the browser and the server through an encrypted and secure channel.

Key features:

- Search for captures by class, make, model, or color and period;
- Registration and import of monitored vehicle lists;
- Mobile capture point through Android application or mobile devices (patrol car solutions);
- Public Safety Panel with monitoring portraits;
- Mobility Panel with information about vehicles circulating at capture points;
- Integration with Public Safety Systems (Detecta, SPIA- PRF, and Cortex);
- Reports with capture data, convoys, vehicle monitoring, incidents, and integration with public safety system data.

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This document aims to guide the developer in using the available operation interfaces that allow operating the Lince system. If there are any doubts, please contact Pumatronix's technical support.



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# 1. Lince Interface

The screens of Lince are divided into 3 parts, as highlighted in the image below:

Pumatronix Lince V	Home > Monitored vehicles	(2)		Search license plate Q Q [→ Sign out
C Dashboards 1 ^	Monitored vehicles (14/05/202	24 - 14/05/2024)		‡†‡ Filter
Monitored vehicles Flow analysis	Reserve	Jacopiranga ina comprise Cajati ini	+ Search and Seizure	Rule-based
Camera Availability Incidents	Prudentopolis	Cannes Cannes	Documentation	Theft and Robbery
C System V	rati Palmera Trati Campo Largoo Ara	Curritiba Paranagua scana 177 Portal do Parana Fazenda	<b>₽</b> 0	0 •
(3) Settings ~	São Mitres e O Sul uni Poro Unão Canorhas e Mara São Cocoles e	Berron Distance Provide State	Intelligence	Total vehicles
	Date 🛧 Plate	Vehicle classes Characte	eristics Type	Capture point Capture
	Monitoring reasons by hours of the day		No items	Visualization 11 Ar Per hour -
C User Agreement		4]		
<ul> <li>User Guide</li> </ul>		Build ISC,2023-892-g189ac471 frc	om 05/13/2024 12:13:12 pm   Powered by <u>Pumatronix</u> ®	

Figure 1 – Lince Interface: 1) Collapsible side menu, 2) Top menu, 3) Viewing area

- 1) Collapsible side menu: access to menus and the section allowing editing of the logged-in user's account settings, as well as changing the interface language;
- 2) Top menu: contains the following information and functionalities:
  - a. Indication of steps/path within the system;
  - b. Search field for captured plates stored in Lince, directing to the Capture Report;
  - c. Icon indicating new notifications from the Notification Panel;
  - d. Button to log out of the system.
- 3) Viewing area: region where the content of the menus is displayed.

#### Tile view

The *Camera Tile* displays thumbnail images of real-time records, which come from all capture devices that the user has access to. The *Filter Cameras* button allows selecting which devices will have their records displayed in the tile.

At the bottom of the screen, the data of monitored vehicles identified by the devices are displayed in a list format. In this list, the ID, date and time of capture, identified plate, and equipment data that performed the capture are presented.





Figure 2 – Example of 2x2 tile view

## Notifications

Notifications are messages generated by the system to communicate the occurrence of vehicle monitoring events, located in the top menu, on the bell symbol to the right, and when clicked, it opens the side window with the list of the latest notifications.



Figure 3 - Location of the Notification Panel



Ę	Notifications	×
^	Recents	
	No recent notification	
^	All notifications	
()	ALERT • 4 months Veículo monitorado detectado: IE /8/ ,	Θ 2
()	ALERT • 4 months Veículo monitorado detectado: Pi#74	(C) 13
()	ALERT • 4 months Veículo monitorado detectado: ANOS,	⊖ 7
()	ALERT • 4 months Veículo monitorado detectado: AMM20	⊖ 7
()	ALERT • 4 months Veículo monitorado detectado: M.S. 8	⊖ ₽5
()	ALERT • 4 months Veículo monitorado detectado: Al@i6i	⊖ ₄

Figure 4 - Notification Panel Side Window

#### **Configure Notification Panel**

*Monitoring Alert* notifications can be activated for the notification panel by clicking on the gear icon, located in the upper left corner of the *Notification panel*. It is possible to select to *Receive notifications* through *the Notification panel* and/or by *Email*. Each adjustment made will only take effect after clicking on the *Confirm* button.



Figure 5 - Settings available for the Notification Panel



# 2. Panels

The *Panels* provide statistical analysis of data in charts, lists, and maps by selecting the information of interest and applying the filter in each panel separately. The data to be displayed on the panel must be selected by clicking on the *Filter* button in the respective viewing area:



*Figure 6 - Location of the Filter functionality* 



#### Monitored Vehicles

The first panel on the *Panels* list displays on the map the location and type of detected monitoring, providing information used to identify monitoring patterns for a particular region and allowing visualization of the magnitude of an event's incidence.

When accessing the *Monitored Vehicles* panel, the initial filter considers captures from the current date, and the following are applicable:

- Initial date & time;
- End date & time;
- Today or Current month;
- License plate;
- Vehicle classes;
- Monitoring reasons;
- Capture Points.

The listing of detected vehicles is displayed just below the map, with the main capture data shown, sorted by the most recent detections, and allows access to the vehicle information page by clicking on the license plate link, as well as details of the capture by clicking on the respective capture image:



Prefeitura Muni 🗸 🗸	Home > Monitored vehic	les				Search licer	ise plate	Q	Ĵ [→ Sign ou
ashboards ^	Monitored vehicl	es							tt Filter
<b>Ionitored vehicles</b> Iow analysis tamera Availability	DINHA NOVO MUNDO	UBERABA	PARQUE DA TE 277	ре та <b>Р<sup>ис</sup> +</b>	Search and Seizure		Rule-based		
ncidents ystem	CAPÃO RASO XAXIM PINHEIRINHO BOQ SÍTIO CEPCADO	ALTO UUEIRÃO	Aeto Forto Internacional de Curitiba Afonso Pena să é RIO PEQUENO	OSEIRA DE O SEBASTIÃO 277 PLANTA LARANJEIRAS BORDA DO	Documentation		Theft and Robbe	ery	
	ARA Google	ICHINHO SANTO ANTON	116 OUISSISANA NO COSTEIRA 376 Keyboard shortcuts Map	CAMPO DOM R SÃO SEBASTIAO MEROULIÃO data 62024 Google Terms Report a map error	Intelligence		Total vehicles		
	Date ↑	Plate	Vehicle classes	Characteristics	Туре		Capture poin	t	Capture
	05/08/2024 1:55:12 pm	Em.C.i.e	Cars	VW VIRTUS MF PRETA	titelligence		CFI 011/3F - RA	IDAR	
	05/08/2024 10:31:39 am	B 100.39	Cars	VW VIRTUS MF PRETA	titligence		CFI 007/2F - R/	ADAR	Î.
ser Agreement	05/08/2024 10:26:15 am	B.Intodil 9	Cars	VW VIRTUS MF PRETA	intelligence		CFI 010/3F - R/	ADAR	N.
ser Guide			Buik	ISC_2023-890-g272c9c52 from 05/09/2	2024 1:58:06 pm Powered by <u>Pumatronix</u> ®				

Figure 7 – Example of the initial screen in Panels > Monitored Vehicles

When clicking on each capture, the details of the captured data are displayed individually, containing tabs for Capture *Information*, *Renavam* data, and *Location* on the map:

Capture details			×
	Information Rei	navam	
G	Plate	Date & time	Capture point
	Camera	05/08/2024 10:31:39 am	CFI 007/2F - RADAR
	CFI 007/2F - Faixa 02	131342813	
	Jownload PDF		
Location			
SILVEIRA DA MOTTA	Sao Jose dos Pinhais	R Colombo Jos	R. Com. Au
1 man	CENTRO	Constant R. Verice R. N	Nandaguan an
R São Paulo R Colat	Rus Don	e Izaber	R Chandla P Abucar
Google	* Lenno	A Redentora C A Red	024 Google Terms Report a map error

Figure 8 – Screen with Capture Details

#### Monitoring Reasons by Hour or Day

The chart showing monitoring reasons allows identifying behavior patterns by hours of the day or by days of the week, by selecting the option in the box on the right:





Figure 9 – Example of the chart of detected vehicles by hours of the day



Figure 10 - Example of the chart of detected vehicles by days of the week

#### Capture Point Analysis

The chart with the number of detections of monitored vehicles by capture points displays the number of captures made and the efficiency rate of the devices in red, yellow, or green colors, as identified in the legend, both by hours of the day or by days of the week, as selected in the box on the right. More detailed information can be accessed in the <u>Camera Performance</u> panel.

The efficiency rate calculation considers the total number of captures made by the device and the number of captures with plate 0000000, which indicates a problem in identifying the vehicle's plate. In other words, if a device's efficiency rate is 62%, it can be concluded that 38% of the captures are errors. With this data and color visualization in the system, the user can quickly identify times with difficulties in plate identification or the performance of devices over the days.



Figure 11 - Example of the capture point efficiency analysis chart



# Flow Analysis

The traffic flow analysis for a certain group of capture points is possible with the quantity raised by the Lince system and displayed according to the registered sections. When accessing the *Flow Analysis* panel, the initial filter considers captures from the current date, and the following filters are applicable:

- Initial date & time;
- End date & time;
- Today or Current month;
- Capture Points;
- Cameras;
- Ranking of the most captured vehicles.



Figure 12 - Example of the initial screen in Panels > Flow Analysis

#### Traffic Flow Map

The *Traffic Flow Map* displays the average speed information for the registered <u>Monitored Sections</u> and shows on the map the color corresponding to the average speed detected in the monitored section, as per the legend.

#### Captures by Day of the Week or by Hour of the Day

The quantity of vehicles by day of the week or by hour of the day is displayed considering the vehicle class for a certain group of selected capture points:





Figure 13 – Example of the chart of captures by day of the week



Figure 14 - Example of the chart of captures by hour of the day

#### Ranking of Captures by Vehicle Class

The ranking list of captures by vehicle class displays the quantity by vehicle class, listing which class has the highest quantity for a certain group of selected capture points in the filter.

Ranking of captures by vehicle class								
#	Class	Amount						
1	Cars 📾	121056						
2	Unknown 🕐	14705						
3	Motorcycles වීර්	8578						
4	Truck 👼	7421						
5	Bus 🗖	2325						

Figure 15 – Example of the ranking of captures by vehicle class

#### Flow Intelligence

From the Flow *Intelligence* section, the presented data result from the analysis of flow data and provide relevant information for monitoring vehicle flows by capture points.

Flow intelligence												
Ranking of most detected plates												
	# Plate Amount											
1		300.20173	42									
2		\$2077(5) 0	31									
3		GHIL4III0	26									
4	A[[213 25											
5		80140031	25									
Ranking of captur	re point by dete	ction number										
	- , ,											
	Capture point			Amount								
1	CFI 012/4F - RADA	R		9599								
2	CFI 010/3F - RADA	R		9546								
3	CFI 013/4F - RADA	R		8748								
4	CFI 011/3F - RADA	R		8265								

Figure 16 - Example of the quantities of most captured plates and by capture points

- 1) *Ranking of most detected plates* lists the plates with the highest number of detections and shows the number of times they were captured in the images;
- 2) *Ranking of capture points by number of detections* lists the capture points with the highest number of detections and shows the number of captures made at each point;
- 3) *Plates by reading frequencies* displays the quantity of plates that have some reading frequency, grouped by average capture frequency;



4) *Ranking of plates with the highest average speed* lists the plates with the highest average speed calculated for a registered section, selected on the right.

#### Camera Availability

The *Camera Availability panel provides an overview of* the efficiency of a device registered in the system, indicating in the graph the number of records per hour of the day. When accessing the panel, the initial filter considers captures from the current week, and the following filters are applicable:

- Initial date & time;
- End date & time;

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#### • Cameras.

With color visualization, the user can quickly identify the most problematic times of the day, during which there may be some difficulty in identifying plates, considering the device selected in the filter. Thus, when *Null Records* occur between 11 pm and 5 am, the cause may be related to lighting issues. When there are *Null Records* at all times of the day, it is likely caused by poor device framing.

Prefeitura Muni 🗸	Home	> Camer	a Availab	ility																earch lice	ense plat	0	Q	Û	[→ Sign out
C Dashboards ~	Cam CFI 001	Camera Availability CFI 001/2F - Faixa Diretta: (01/05/2024 - 31/05/2024)															≝ Export ∨ ††								
🖵 System 🔨																									
Reports ^	Search history 👻																								
	The last 5 searches are served to facilitate visualization.																								
	0612																								
	05/1																								
	05/10																								
	05.0																								
	05/0	140	91	44	41	50	45	71	95	208	277	300	0	0	0	۰	0	•	۰	۰	0	٥	0	٥	•
	05/0	0	0	0	•	0	۰	0	•	0	0	0	0	0	422	449	503	458	407	421	367	304	289	254	186
	05.0	0	•	•	•	•	88	199	460	395	439	515	501	501	547	116	0	•	•	•	0	0	•	•	•
	08.01	•	°	•	÷		°		-	~		- 1/2	516	558	468	464	490	500	555	517	-111	261	0		
	05/0			20	17	42		206	500	103			•												
	05.0			0		0		0		0	173	489	546	404			0				0		•		
	05/0	•	0	•	•	0		•		•		479	483	457	550	558	608	m	•	•	0	•	0	•	
User Agreement		Ŧ	15	Ŧ	4	s.	¢	6°	17	Ŧ	æ	.dr	110	4	Ţ	1,527	Ţ	.¢*	170		S.	-137	2111	10	-37
(?) User Guide									8	uiid ISC_20	123-890-g2	72c9c52 fr	im 05/09/20	024 1:58:06	pm   Power	ed by <u>Puma</u>	etronix®								

Figure 17 - Graph of Camera Availability Visualization

# **Cloning Suspects**

The *Cloning Suspects* panel presents possible captures indicating vehicle plate cloning as it tracks images with the same plates detected at times with incompatible movements. This validation is done using all devices sending images to the system but with vehicles of different characteristics. When accessing the panel, the initial filter considers captures from the current month, and the following filters are applicable:

- Initial date & time;
- End date & time;
- License plate;
- Capture Points;
- Cameras.

The map with the location of the records allows focusing on all by clicking on the button below to the right. The list of captures of cloning suspects displayed allows some *Actions,* in the column to the right, during panel viewing:

- Focus: clicking on the button displays the location where the plate was detected;
- *Monitor*: clicking on the button directs the user to the page for creating a new monitored vehicle when the *Status* is *No Monitoring*.





Figure 18 – Example of the initial screen of the Cloning Suspects panel

#### Convoy Detection

The *Convoy Detection* panel presents the plates of at least 2 vehicles that have been detected traveling together, repeating this behavior at least once. When accessing the panel, the initial filter considers captures from the current month, and the following filters are applicable:

- Initial date;
- End date;
- License plate;
- Repetition period;
- Repetitions.

The map with the location of the records allows focusing on all by clicking on the button below to the right. The list of detected convoys is displayed just below the map and allows some *Actions,* in the column to the right, during panel viewing:

- Focus: clicking on the button displays the location where the convoy was detected;
- *Monitor*: clicking on the button directs the user to the page for creating a new monitored vehicle when the *Status* is *No Monitoring*.



Pumatronix Lince V	Início > Detecção de comboios		Pesquisar placa	Q Û [→ Sair
Paineis ^	Detecção de comboios 💿			‡†∔ Filtrar
Veículos monitorados	<u>l</u>	Colombia Surmaine	Gabão República Quên	Somália la
Análise de fluxo		Edwarden AM DA, MA CO en	Democrática do Congo Tanzânia	<b>-</b>
Desempenho de câmeras		Peru at a state	Angola Zâmbia	_
Suspeitos de clonagem	8	Bolivia	Namibia Zimbábue	moique
Detecção de comboios		Paraguai pa	Botsuana	Indico
Incidentes	Oceano Pacífico Sul	Urusuai	Atlântico Sul África?	
↓ ↓ Sistema ^	<b>V</b> .	Argentina		Total de comboios
Monitoramento Mosaico de Câmeras Mapa de Pontos de Captura	Google		Atabas do Y	137671 elido   Dedos certopañoce 82024 Googie, NEGH   Terros
Veículos Monitorados	Placa Período de repetições 个	Repetições	Status	Ações
Regras de Incidentes Trechos Monitorados	A 4 4 4 09/12/2023	and a second	Sem monitoramento     Sem monitoramento	
Pontos de Captura & Câmeras	A		Sem monitoramento	0 0 0
Pontos de Captura	Fill 8	· .	Sem monitoramento	0
Câmeras	B/ 50 4		Sem monitoramento	
Relatórios ^	A 0 2	6	Sem monitoramento	© ×
Relatório de Capturas 👻		Versão ISC_2023-326-gb869d09c de 03/01/2024 16:18:29   Powe	ered by Pumatronix®	

Figure 19 – Example of the initial screen of the Convoy Detection panel

#### Incidents

The *Incidents* panel presents the quantity and location on the map of incident records detected as configured in the <u>Incident Rules</u>, including Speeding, Exclusive lane, Roadblock, Car rotation, and Border control.

When accessing the panel, the initial filter considers captures from the current month, and the following filters are applicable:

- Initial date & time;
- End date & time;
- Today or Current month;
- Type of rule for incidents;
- Capture Points;
- Cameras.



Pumatronix Lince V Deisne	Home > Incidents				Search license plate	$Q  \stackrel{\frown}{\downarrow}  [ \rightarrow Sign out$
Dashboards     Monitored vehicles	Incidents Incident registration					‡†‡ Filter
Flow analysis Camera Availability Incidents			Nicaragua Venezuela Cuyana Suriname Ecuador	Burkin Guinea - Faco Chan Gui	Nigeria Cabon Cabon DRC	Arabian Sea
↓     System     ✓       ▲     Reports     ✓       ♦     Settings     ∧			Perguar	an cran	Tanzahia Angola Zambia Mozambique Namibia Zimbabwe Botswana Madagascar	Indian Ocean
	Google	South Pacific Ocean	Chile Argentina	South Atlantic Ocean	South Africa	yboard shortsuts   Map data @2024 Google, INEEDI   Tems
	Speeding O	Exclusive track	Via blocked O	Car rotation	Border control O	Total O
	Incident type violations					
User Agreement						
() User Guide			Build ISC_2023-892-g189ac471 from 05/13,	/2024 12:13:12 pm   Powered by <u>Pumatronix</u> ®		

Figure 20 - Example of the initial screen of the Incidents panel

The graphs presented in the panel offer statistical information on the incidents detected within the filtered period:

1) *Violations by type of incident*: presents the number of incidents in a graph that allows quick identification of those with the highest number of occurrences;



2) *Violations by day*: optimizes data in a graph that allows identification of days with the highest incidence of incidents;



3) *Violations by vehicle class*: graph with data on the number of violations detected for each vehicle class;





4) *Vehicles with recurring restrictions*: list with the ranking of vehicles detected with the highest number of violations;

_							
	Veículos com	n restrições recorrentes	3				
	#	Placa	Marca	Modelo	Cor	Violações	Â
	1	0000000	-			5	
	2	C 2 3	-			2	
	3	C 6 9	-			1	
	4	К 4 4	-		-	1	
	5	A 7 0	-			1	
	6	wind				1	-

5) *Violations by day of the week*: quantity of incidents detected per day of the week on devices, with indicative colors of the days with the highest quantity, as per legend;

Violações por dia d	a semana						
			🔵 Baixa quantidade 😑 Médi	a quantidade 🛛 🖕 Alta quantidad	de		
GUARATUBA - Saida Ferry	0	0	0	0	0	1	0
GUARATUBA - Entrada Ferry	0		0	0	1		0
CAIOBÁ - Cabine 02	0	0	0	0	1	0	0
CAJOBÁ - Cabines de cobrança	0	0	0	0	1		0
GUARATUBA - Cabine 01	0		0	0	1		0
Default	0		0	0	26		0
CAIOBÁ - Cabine 01	0		2	40			0
GUARATUBA - Cabine 02	0		2	0	1		0
Jiga de Testes ITSCAM 600	0		123	79	26		0
	Date	98 <sup>0</sup>	1. <sup>45</sup>	Or <sup>uth</sup>	0 <sup>39</sup>	Set	Sign

6) *Violations by hour of the day*: quantity of incidents detected per hour of the day on devices, with indicative colors of the hours with the highest quantity, as per legend;



Baixa quantidade  Média quantidade  Alta quantidade														antidade										
GUARATUBA - Saída Ferry	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GUARATUBA - Entrada Ferry	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0		0	0	0	0	0	0	0	•
CAIOBÁ - Cabine 02	0	0	0	0	0		0	0	0	0	0	0	0	0	1		0	0	0	0	0	0	0	
CAIOBÁ - Cabines de cobrança	0	0	0	0	0	0	CAIOBA -	- Cabine i	32: 0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	•
GUARATUBA - Cabine 01	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	•
Default	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3	5	9	7	0	0	0	0	0	,
CAIOBÁ - Cabine 01	0	1	0	0	3	9	3	0	3	3	4	1	2	2	4	3	4	0	0	0	0	0	0	;
GUARATUBA - Cabine 02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		2	0	0	0	0	0	0	
ling de Testes (TSCAM 600	0	0	0	0	0	0	0	0	1	1	0	21	24	21	78		23	12	1	0			0	

# 3. System

#### Monitoring

#### Camera Mosaic

The monitoring option with the *Camera Mosaic* allows live viewing of the images from each registered device, aiming to monitor roads and vehicles added to the <u>Monitored Vehicles</u> list. Below the displayed images is a list of the last 50 occurrences in 24 hours detected on the devices of the filter applied in *Camera Filter*.



Figure 21 - Example of the Camera Mosaic screen

When accessing the mosaic, which devices will be monitored live in the *Camera Filter* must be selected. The list of all registered devices is displayed and can be searched by name. They must be selected by clicking on the checkbox to the left of each device, and at the end, *Apply* must be clicked to confirm the selection:



Pumatronix Lince V Daiane	Home > …	> Cameras Mosaic > Filter Camera	<u>8</u>			Search license plate Q	Û [→	Sign out
🕒 Dashboards 🔷 ^	← Filter	Cameras						
🖵 System 🗸 🗸	Q Search can	nera						Apply
Monitoring Cameras Mosaic		Camera 🛧	Capture point	Direction Rear	Serial number 11382A9798290881988ADCFE90325476431	D2E1F1	Status	
Capture point map Monitored vehicles Incident Rules	- Connel Connel	ABC123	Casa Adroaldo	Front On the State	CAMABC123		Active	
Monitored Routes Capture points & Cameras		Camera 00555	location 5	Front	cam00555		Active	
Capture points Cameras		camera 3	location 3	None	cm3		Active	
Reports V	Contraction of the second	Camera_DEMUT8294001	Default	Front	DEMUT8294001		Active	
දිටු Settings ^		Camera_F8D46200B047	Default	Front	F8D46200B047		Active	
		Camera_F8D46201422E	CAIOBÁ - Cabine 02	Front	F8D46201422E		Active	
💾 User Agreement		Camera_F8D462014CA2	Default	Front	F8D462014CA2		Active	
() User Guide			Build ISC_2023-892-g189ac4	<b>471</b> from 05/13/2024 12:13:12 pm   P	Powered by <u>Pumatronix</u> ®			

Figure 22 – Camera Filter screen for the mosaic

#### Capture Points Map

The monitoring option with the *Capture Points Map offers a* joint visualization of the location and status of the registered capture points. By clicking on the legend, points can be removed from the map and the list below the view, for example, those that are disabled. All capture points are listed below the map, and their location can be viewed separately by clicking on the listed capture point.



Figure 23 – Initial screen of the Capture Points Map



#### Monitored Vehicles

When accessing *System > Monitored Vehicles*, a list of all monitored vehicles registered in the system is displayed. They can be edited or removed from monitoring, and there are options for registering new monitoring.

Ç	Sistema ^	Início > Sistema	> Monitor	ramento > Veículos Monitorados			Pesquisar p	laca Q	Ç [-;	Sair
М	onitoramento									
1	Mosaico de Câmeras	Veículos Mo	nitorac	los		Editar regra de m	nonitoramento		onar veícu	lo 🔹
	Mapa de Pontos de Captura									
	Veículos Monitorados	Início/Expira	Placa	Tipo	Descrição do	Características	Alerta No	tificações Responsável		Ações
	Regras de Incidentes				veículo					
	Trechos Monitorados	15/01/2024	B 1	MonitoringVehicles.type.automatic_monitoring	O VEÍCULO FOI DETECTADO 5	VEÍCULO NÃO	4· 🖸		Ľ	Θ
Po	ontos de Captura & Câmeras	15/01/2024			VEZES	PERMITIDO				
	Pontos de Captura									
	Câmeras	15/01/2024 15/01/2024	<u>0) 8</u>	MonitoringVehicles.type.automatic_monitoring	O VEÍCULO FOI DETECTADO 5	VEÍCULO NÃO PERMITIDO	¢ D		C	Θ
	Relatórios ^				VEZES					
	Relatório de Capturas	13/01/2024	CHER IN	Manifedra Vehicles for automatic manifestar	O VEICULO FOI	VEICULO NÃO	o D		9 <sup>9</sup>	
	Relatório de Comboio	13/01/2024	Ur Ur B	Monitoring venicles.type.automatic_monitoring	VEZES	PERMITIDO	Sugar State		6	U
	Relatório de Monitoramento				S. C. C.					
	Relatório do SPIA-PRF	13/01/2024 13/01/2024	<u>M 8 8</u>	MonitoringVehicles.type.automatic_monitoring	O VEICULO FOI DETECTADO 7	VEÍCULO NÃO PERMITIDO	φ		Ľ	Θ
	Relatório de Log do Sistema				VEZES					
	Relatório Forense				O VECULO FOI					
	Relatório de Incidentes	13/01/2024 13/01/2024	<u>H 3 5</u>	MonitoringVehicles.type.automatic_monitoring	DETECTADO 6	VEICULO NÃO PERMITIDO	ф (Д		ď	Θ
63	Configurações ^									
C	ontrole de Acesso	13/01/2024 13/01/2024	R 5C 3	MonitoringVehicles.type.automatic_monitoring	O VEÍCULO FOI DETECTADO 6	VEÍCULO NÃO PERMITIDO	4º 🖸		C	Θ
	Usuários •			Versão ISC_2023-358-gac	0dd933 de 08/01/202	4 13:45:54   Powered by <u>Pum</u>	natronix®			

Figure 24 – Screen in System > Monitored Vehicles in the option of Adding monitoring rule

In the *Adding rule* or *Editing monitoring rule*, the validity times of the monitoring of all registered vehicles are determined, and among the configuration options are:

- General Tab
  - Activation time: selection of the start time for the daily monitoring of the plates of registered vehicles;
  - Expiration time: selection of the end time for the daily monitoring of the plates of registered vehicles;
  - Repetitions: indication of the number of times the plate can be detected before being included in the monitored vehicles list;
  - Expiration > Monitoring time: definition of the period in which the vehicle remains in the monitored vehicles list, in days.
- Exception Tab
  - $_{\odot}$  Allowed vehicles: inclusion of plates that should be ignored by the monitoring because they are allowed for the Incident;
  - $_{\odot}$   $\,$  Upload CSV: inclusion of the list of allowed plates using the CSV file;
- Notifications Tab:
  - Notification channels: can be received via *Email* and/or *Telegram;*



- Alert type: can be *Audible* and/or *Visual* (Pop-up);
- $\circ$  Notified people: selecting a Group of responsible individuals and the Users to be notified;
- $\circ~$  Customization of alert notification: the audible alert allows configuration of the sound type and the Pop-up color;
- Pop-up retention can be selected, which keeps the pop-up window open;
- $\circ$  Alert audio playback: audio volume and playback speed are adjusted.

General Exception Notificatio	ins	
Interval of hours		
Start hour *	Expiration hour *	
() hh:mm	() hh:mm	
If the vehicle is tracked in this amount, or more, it w Expiration Monitoring time	ill be added to the list.	
0		

Figure 25 – Screen of the Add Vehicle> Import Vehicles option

The registration is done through the *Add Vehicle button*. It is possible to import a list of plates of interest through the *Import Vehicles* option. In the opened window is the place to send the CSV file, by clicking on *the Upload CSV* button:

Add vehicle	×
Upload the CSV file using the button below	
c	ancel

Figure 26 – Screen example in Create new monitored vehicle > General tab

Selecting the option to add a *New Vehicle* opens the window to *Create a new monitored vehicle* and the fields with the vehicle data can be filled in:

- General Tab:
  - Monitoring name: name of the monitoring (mandatory field);
  - *Type*: select between the options Search and Seizure, Documentation, Theft and Robbery, and Intelligence (mandatory field);
  - Vehicle description: vehicle description, such as the model (example);
  - Characteristics: vehicle characteristics, such as color (example);
  - Activation date: start date set for monitoring analysis (mandatory field);
  - *Expiration* date: end date set for monitoring analysis (mandatory field).



New monitored	vehicle	Characteristics	Alert
New monitoret	Venicie		~
General Vehi	cle Notifications Schedules		
monitoring name *		Type *	
Enter your monito	ing name		-
Vehicle description	tion		
Start date *		Expiration date *	
💾 mm/dd/yyyy		🛗 mm/dd/yyyy	
		Cancel	Apply
		Cancel	Apply

Figure 27 – Example screen in Create new monitored vehicle > General tab

- Vehicle Tab:
  - o Plate;
  - o Brand;
  - o Model;
  - Color;
  - Vehicle classes;
  - Number of characters identified on plates: allows identification of partially obscured plate characters, with up to 1 or 2 unidentified characters.

General Vehicle	Notifications Schedules		
Plate *			
Enter your vehicle plate		Partial plate	
If you don't know all the characters	on the plate use * or ? to fill unknown characters.		
If you don't know all the characters	on the plate use * or ? to fill unknown characters.		
If you don't know all the characters Characteristics	on the plate use * or ? to fill unknown characters.		
If you don't know all the characters Characteristics If the vehicle does not have the full	on the plate use * or ? to fill unknown characters. plate fill in at least 2 fields of the characteristics.		
If you don't know all the characters <b>Characteristics</b> If the vehicle does not have the full Vehicle classes	on the plate use * or ? to fill unknown characters. plate fill in at least 2 fields of the characteristics.		
If you don't know all the characters Characteristics If the vehicle does not have the full Vehicle classes Select the classes	on the plate use * or ? to fill unknown characters. plate fill in at least 2 fields of the characteristics.		-
If you don't know all the characters Characteristics If the vehicle does not have the full Vehicle classes Select the classes Make	on the plate use * or ? to fill unknown characters. plate fill in at least 2 fields of the characteristics. Model	Color	•
Y you don't know all the characters Characteristics If the vehicle does not have the full Vehicle classes Select the classes Make Enter your make	on the plate use * or ? to fill unknown characters. plate fill in at least 2 fields of the characteristics.  Model  Enter your model	Color Enter your color	-
If you don't know all the characters Characteristics If the vehicle does not have the full Vehicle classes Select the classes Make Enter your make	on the plate use * or ? to fill unknown characters: plate fill in at least 2 fields of the characteristics. Model	Color Enter your color	-

Figure 28 - Example screen in Create new monitored vehicle > Vehicle tab

- Notifications Tab:
  - Notification channels: can be received via *Email* and/or *Telegram;*
  - Alert type: can be Audible and/or Visual (Pop-up);
  - o Notified people: selecting a Group of responsible individuals and the Users to be notified;
  - Customization of alert notification: the audible alert allows configuration of the sound type and the Pop-up color;
  - *Pop-up retention* can be selected, which keeps the pop-up window open;
  - Alert audio playback: audio volume and playback speed are adjusted.



New monitored vehicle	×
General Vehicle Notifications Schedules	
Channels for notifications	
E-mail Telegram	
Alert type	
Sound alert Visual Alert (Pop-up)	
People notified Add at least one group OR user to receive the notification.	
Responsible group	Users to be notified
Caiobá Cabines 🕲 Select your responsi 👻	Start typing 👻
Alert notification customization	color pop-up
Alerta 1 👻	#323e54
▶ 0:00 / 0:00 → ④ :	
Pob-oblicitention	
	Cancel Apply

Figure 29 - Example screen in Create new monitored vehicle > Notifications tab

In *Schedules*, the initial and final alert reception times for the vehicle when identified can be specified by day of the week:

New monit	ored vehicle				×
General	Vehicle Notifications	Schedules			
Alert time	s for identified ve	hicles			
Monday	Tuesday Wedne	Thursday	Friday	Saturday	Sunday
Monday	•				
Tuesday	<b>+</b>				
Wednesday	<b>e</b>				
Thursday	<b>+</b>				
Friday	+				
Saturday	•				
Sunday	•				
				Cancel	Apply

Figure 30 - Example screen in Create a new monitored vehicle, Time tab

#### About the CSV File

The CSV (Comma-Separated Values) file is used for importing monitoring data and must have fields written in the order and format below:

- License plate;
- Monitoring\_name;
- Description;
- Vehicle\_characteristic;



- Monitoring\_type;
- Start\_date;
- End\_date;
- Audible\_alert;
- Pop-up\_alert;
- Email\_notification.

	A1		€ fx	placa,nor	me_monitoram	ento,descri	cao,caracte	eristica_veic	lo,tipo_mon	toramento,dat	a_inicial,dat	a_final,alerta	_sonoro,alerta	a_popup,aviso	email,aviso	_whatsapp
	A	в	с	D	E	F	G	н	1	J	к	L	м	Ν	0	Р
1	placa,nome, m	onitorament	o,descricao	,caracteristic	a_veiculo,tipo	_monitoran	nento,data	inicial,data,	final,alerta_	sonoro,alerta_	popup,aviso	email,aviso_	whatsapp			
2	ABC1234, Moni	toramento 1	Ford Ecosp	ort,Vermelho;	theft_and_rob	bery,2022-0	1-01,2022	12-31,1,0,1,	)							
3	CDE4567,Moni	toramento 2	Chevrolet P	Prisma, Preto, d	locumentation	,2022-06-0	1,2022-06-8	30,1,1,1,0								
4	EFG7890,Moni	toramento 3,	Fiat Mobi,A	zul,intelligen	ce,,,0,1,0,0											
5	GHI1357,Moni	toramento 4,	Jeep Renega	ade,Cinza,sea	rch_and_seizu	re,2022-03-	01,2024-12	-31,1,1,1,0								

Figure 31 – Example spreadsheet with data in CSV format

#### Incident Rules

The captures displayed in the *Incidents* panel were made considering the created *Incident Rules* that consider the type of incident, for different purposes:

- 1) Border Control: monitor state borders and neighboring countries' borders;
- 2) *Speeding*: monitor vehicles' maximum speed on roads, additionally configuring alert times for identified vehicles, by day of the week;
- Exclusive lane: monitor lanes exclusive for buses and, in some cases, taxis and school vehicles, specifying the allowed vehicle class and defining alert times for identified vehicles, by day of the week;
- 4) *Car rotation*: monitor traffic in areas with vehicle plate rotation, specifying restricted plates, and prohibited vehicle types, and defining alert times for identified vehicles, by day of the week;
- 5) *Blocked road*: monitor pedestrian-permitted roads blocked for vehicles, defining alert times for identified vehicles, by day of the week.

Pumatronix Lince V Daiane	Home > System > Monitoring >	Incident Rules				Search license plate	Q Û [→	Sign out
C Dashboards ^	Incident Rules							
🖵 System 🔨 🔨	Q Search incident						+ N	ew rule
Monitoring	Name	Start date & time 1		Final date	Incident type			Actions
Cameras Mosaic	Teste 1	03/04/2024		18/04/2024	Speeding		Ľ	Θ
Capture point Map								
Monitored vehicles	Teste	01/04/2024		04/04/2024	Exclusive track		Contraction of the second s	Θ
Incident Rules Monitored Routes	Teste 99	21/01/2024		25/01/2024	Exclusive track		See. R	Θ
Capture points & Cameras	Teste autocom	31/12/2023		17/01/2024	Speeding		C	Θ
Cameras	Teste	01/04/2024		18/04/2024	Exclusive track		C	Θ
🖹 Reports 🗸 🗸								
දිරි Settings ^	Via bloqueada	09/08/2023		10/08/2023	Via blocked		Ser C	Θ
	Thiago Teste	31/12/2023		30/01/2024	Speeding		Ľ	Θ
	Speed test	08/08/2023		09/08/2023	Speeding		C	Θ
User Agreement				Displaying 8 of 8 [1 - 8]				
(?) User Guide	AN*	~~	Build ISC_2023-892-g1	189ac471 from 05/13/2024 12:13:12 pm   Power	ed by <u>Pumatronix</u> ®	~~~		

Revision 1.0



Creating a new incident rule with *+New rule* opens the window with fields to be filled out according to the type of incident, with common fields for all:

- Activation date: selection of the start day of the new rule's validity;
- Expiration date: selection of the day when the new rule's validity expires;
- Name: identification of the new rule;

MATRONIX

- Incident rule type: selection of the rule type among possible incidents like Speeding, Exclusive lane, Blocked road, Car rotation, and Border control;
- Capture Point: selection of the Capture Point where the set of devices of interest is located;
- *Cameras*: selection of the devices where incident records should be detected.

mm/dd/vvvv
Incident rule type *

Figure 33 - Initial screen for creating a new incident rule

#### Monitored Segments

The registered *monitored segments* are used in the database for the *Flow Analysis* panel and are responsible for controlling the speeds practiced in the registered segments. In the actions column, it is possible to edit or remove a created segment:



Pumatronix Lince V Dalane	Home > System > Monitoring > Monitor	ored Routes			Search license plate	$Q  \hat{U}  [ \Rightarrow Sign out ]$
Dashboards	Monitored Routes					
🖵 System 🗸 🗸	Q search route					+ New routes
Monitoring	Name	Initial camera	Final camera	Distance	Speed	Actions
Cameras Mosaic	Cabines > Entrada FerryBoat	Camera_F8D4620132F0_123456	Camera_F8D46201332D	750 m	50 km/h	e o
Capture point Map	TESTE	Camera F8D46201422B	Camera F8D462014232	44 m	4.km/b	R O
Monitored vehicles		and the second sec				
Incident Rules	Teste 99	camera 1	camera 4	5204 m	60 km/h	8 0
Capture points & Cameras	Teste mapa fluxo transito	Camera_F8D4620132F0_123456	Camera_F8D46201332D	750 m	30 km/h	ß O
Capture points	Teste	Camera_F8D46201349F	Camera_F8D46201422D	5 m	20 km/h	e o
Reports V	Teste	camera 1	camera 2	4468 m	40 km/h	o Billion
کې Settings	Treche 1	Camera_F8D46201349F	Camera_F8D46201422D	5 m	20 km/h	e o
			Displaying 7 of 7 [1 - 7]			
	Items per page: 10 💌		$\leftarrow$ 1 $\rightarrow$			Go to page: 1
User Agreement						
O User Guide		Build ISC_2023-892-g1894	ac471 from 05/13/2024 12:13:12 pm   Powered b	y <u>Pumatronix</u> ®		

Figure 34 - Example of the initial screen in System > Monitored Segment

Registering a segment with +New segment opens the window with fields to be filled out:

- Segment name: the identification of the segment should be inserted;
- Initial camera: select the device that will be considered at the beginning of the segment;
- Final camera: select the device that will be considered at the end of the segment;
- *Distance between cameras*: indication of the distance between the initial and final devices of the segment, in meters;
- Segment speed: indicate the value, in km/h, of the speed that can be practiced on the segment;
- *+ Add new segment*: by clicking, it is possible to indicate an additional segment as a sequence of the same segment;

F	Final camera *		
•			Ŧ
Route spee	ed *		
m		km/h	
	Route spee	Route speed *	Route speed * km/h

Figure 35 – Initial screen for registering a new segment

#### **Capture Points**

A *Capture Point* refers to a group of devices that are located in the same region when *fixed*, or to *Mobile* or *Smartphone* devices. Registering new devices depends on the existence of the *Capture Point* to which they can be linked.



When accessing *System > Capture Points*, all devices inserted in the system are listed alphabetically by name, and they can be edited and/or removed in the actions column:

Pumatronix Lince V Daiane	Home > System > Capture	points & Cameras > Capture points		Search license plate	Q ₽ [→	Sign out
	Capture points					
🖵 System 🔨	Q Search capture point				+ New captu	ire point
	Capture point name 🛧	Description	Address	Туре		Actions
Cameras Mosaic	CFI 006/2F - RADAR	Rua Joaquim Nabuco (Sentido Portal SJP)	Rua Joaquim Nabuco, 1287 83040-210, São José Dos Pinhais - Paraná	Fixed	Ľ	3 0
	CFI 008/2F - RADAR	Rua Joaquim Nabuco (Sentido Centro)	Rua Joaquim Nabuco, 1126 83430-050, São José Dos Pinhais - Paraná	Fixed	C	3 0
	CFI 009/3F - RADAR	Rua Comandante Aviador Jose Paulo Lepinski X Rua Guaraqueçaba	Rua Comandante Aviador Jose Paulo Lepinski, 164 83005-430, São José Dos Pinhais - Paraná	Fixed	C.	5 O
Capture points & Cameras	CFI 014/2F - RADAR	Alamoda Arpo Próximo N. 203	Alameda Arpo Próximo, 203 83004-050, São José Dos Pinhais - Paraná	Fixed	ľ	3 O
	CFI 016/2F - RADAR	Av. Das Americas Próximo N.154	Av. Das Americas Próximo, 154 83005-040, São José Dos Pinhais - Paraná	Fixed	Contraction of the second s	i 🛛 🖂
	CFI 020/2F - RADAR	Av. Rui Barbosa Próximo N.5758	Av. Rui Barbosa Próximo, 5758 83004-050, São José Dos Pinhais - Paraná	Fixed	C.	3 0
	Jiga de Testes ITSCAM 600	Equipamentos em Teste de Validacao	Rua Bartolomeu Lourenço de Gusmão, 1970 81650-050, Curitiba - Paraná	Fixed	ľ	3 0
User Agreement	location 1	Testo 1	Rua Dr Bronislau O Roguski, 160 81540-080, Curitiba - Paraná	Fixed	ď	3 0

Figure 36 - Example of the initial screen in System > Capture Points

Registering a new location with +New capture point opens the window with fields to be filled out:

- Capture point name: identification of the device in the system;
- *Type*: characteristic of the capture device installation, it can be *Fixed* (poles) and *Mobile* (stationary or moving vehicles), or even a *Smartphone*;
- *Description*: additional information about the item.

In the case of Fixed-type equipment (poles), it will be necessary to indicate the location by entering the Address, Number, State, City, ZIP Code, and Latitude and Longitude data, indicating the geographical coordinates of the installation. Suppose the latitude and longitude are not known. In that case, the user can click on *Select address and enter* the location's address, or mark the point on the map, and the tool will return the latitude and longitude of the indicated location.

Basic informations		
Capture point name *	Type *	
		-
Description		

Figure 37 - Initial screen for registering a new capture point



A *capture point* registered in the Lince system should be considered as a grouping of capture devices in the same location.



#### Cameras

When accessing *System > Cameras*, the image capture devices inserted into the system are listed in alphabetical order, can be edited or removed separately, and display the data of the current *Status* and the *Last communication* made by the device, in addition to the data *of the Capture Point* to which it refers and the *Serial number of* the device.

Pumatronix Lince 🗸	Home > System > Captu	re points & Cameras > Cameras	S			Search license plate	Q	Ĵ	> Sign out
Dashboards	Cameras Q Search camera							+ N6	w camera
L System V	Name 1	Capture point	Direction	Serial number (MAC)	Last communication		Status		Actions
Monitoring Cameras Mosaic	ABC	CFI 008/2F - RADAR	Rear	11382A97982908B198BADCFE9032547643D2E1F1	31/12/1999 at 22:00:00 (2-	Years ago)	Active		g o
Capture point Map Monitored vehicles	ABC123	Casa Adroaldo	Front	CAMABC123	31/12/1999 at 22:00:00 (2:	4 Years ago)	Active		B O
	Camera 00555	location 5	Front	cam00555	31/12/1999 at 22:00:00 (2-	Years ago)	Active		e o
	camera 3	location 3	None	cm3	31/12/1999 at 22:00:00 (2-	Years ago)	Active		e o
Capture points	Camera_DEMUT8294001	Default	Front	DEMUT8294001	12/07/2023 at 08:15:14 (10	Months ago)	Active		6
I ■ Reports ✓	Camera_F8D46200B047	Default	Front	F8D46200B047	27/06/2023 at 17:23:52 (1	) Months ago)	Active		e o
දිටු Settings ^	Camera_F8D46201422E	CAIOBÁ - Cabine 02	Front	F8D46201422E	14/05/2024 at 10:31:00 (3	ŝ seconds ago)	Active		c o
	Camera_F8D462014CA2	Default	Front	F8D462014CA2	28/03/2024 at 18:07:18 (1	Months ago)	Active		e os
	Teste 1	CAIOBÁ - Entrada Ferry Boat	None	Martin and State	31/12/1999 at 22:00:00 (2	Years ago)	Inactive		6
User Agreement	TESTE5	CFI 008/2F - RADAR	Front	113B2A97982908B198BADCFE9032547643D2E1F9	31/12/1999 at 22:00:00 (2	Years ago)	Active		e o
(?) User Guide		-00	Build IS	C_2023-892-g189ac471 from 05/13/2024 12:13:12 pm Powe	ered by Pumatronix®	-05		1.02	

Figure 38 - Example of the initial screen in System > Cameras

Registering a new device with +New camera opens the window with fields to be filled out:

- General Tab:
  - Name: identification of the device in the system.
  - Status: keeps the registration active when selected;
  - Capture Point: selection of the location to which the device is associated;
  - *Direction*: characteristic of how the device is installed, identifying the direction of the road. This installation can capture Front, Rear, or Undefined direction images;
  - Serial Number: data for identifying the installed device;
  - *Save images with recognized plate*: when *Active*, images of captures with recognized plates will be stored in Lince, along with capture information;
  - *Save images without recognized plate*: when *Active*, images of captures without recognized plates will be stored, along with capture information;
  - VMS Configuration: by enabling integration of the Lince system with a <u>video recording</u> system (VMS), the image capture device must be registered by entering an identification in the Camera name and selecting the registered VMS integration.



General				
Name *		Status		
Capture point *	Direction *	*	Serial number (MAC) * 🛈	
Save images with license plate		Save images wit	hout license plate	
Active           VMS configuration		Active		
Camera name	VMS	•		

Figure 39 - Initial screen for registering a new capture device

In the *SPIA PRF* tab, the device ID connected to the SPIA system of the Federal Highway Police (PRF) must be entered. It is only possible to send images and records to the SPIA using the device identifier, as registered in the PRF, and data entered in *Settings > Integrations*.



To register a new capture device, it must be linked to a *Capture Point* already registered in the system.

# 4. Reports

Lince also allows all stored vehicle records to be retrieved and exported in report form.

To generate a report, only the desired results can be selected by choosing among the available records, through the *Filter* button. Additionally, all listed data in the system can be exported using the *Export* button, selecting the file export option.

#### **Capture Report**

The *Capture Report* presents on a single page the following information: *Date & Time, Capture Point, Camera, Plate, Make, Model* and *Color, Vehicle Class,* and image of the *Capture*.



Pumatronix Lince V	Home > Repor	ts > Capture Report						Search license plate	Ô Û	[→ Sign out
Dashboards	~ Capture R	eport							L Export	tt Filter
🖵 System	✓ Capture ID ↑	Date & time	Capture point	Camera	Direction	Address	Plate	Make Model Color	Vehicle Class	Capture
Reports	> 30254215	05/14/2024 10:32:24 am	CAIOBÁ - Cabine 02	Camera, F8D46201422E	Front	Rod. Maximo Jamur, 0	R 3/ 7	VW GOL 1.6L MB5	Cars	19
Capture Report	and and					83260-000, Matinhos - Paraná		BRANCA		A COLORED OF COLOR
Convoy Report								vw s <sup>orb</sup>		
Vehicle Monitoring Report	30254214	05/14/2024 10:32:22 am	CAIOBÁ - Cabine 02	Camera_F8D4620134AF	Front	Rod. Maximo Jamur, O 83260-000, Matinhos - Paraná	R. 3/ 7	GOL 1.6L MB5	Cars Solo	
SPIA-PRF Report								BRANCA		
System Log Report						Rod. Máximo Jamur, O		. "N		10 M
Forensics report	30254213	05/14/2024 10:32:15 am	CAIOBÁ - Cabine 01	Camera_F8D4620134B2	Front	83260-000, Matinhos - Paraná	8 5 22	·	Cars	
Incident Report										
දිරි} Settings	30254211	05/14/2024 10:32:15 am	CAIOBÁ - Cabine 01	Camera_F8D4620134B2	Front	Rod. Máximo Jamur, 0	B 5 2		Cars	1
	Saja.					63200-000, Malinos - Parana		Sajo.		
						Ded Méxime Jamus O				
	30254212	05/14/2024 10:32:14 am	CAIOBÁ - Cabine 01	Camera_F8D462014231	Front	83260-000, Matinhos - Paraná	BL 15 2		Cars	200 J
	30254210	05/14/2024 10:32:14 am	CAIOBÁ - Cabine 01	Camera F8D462014231	Front	Rod. Máximo Jamur, O	B 5 2	- unater	Cars	
	and the optimized in th		,0 <sup>2</sup>	TROP .	TROP I	83260-000, Matinhos - Paraná			100 C	
	Saint.							FIAT		
🕐 User Guide				Build ISC_2023-892-g189	ac471 from 05/13/2024 12:13:	12 pm Powered by <u>Pumatronix</u> ®				

Figure 40 - Example of the initial screen in Reports > Capture Report

It is possible to access the *details of the capture* by clicking on the image of the capture, which opens a window with the registration information. In addition to the registration information, the enlarged image of the detected plate, *Renavam* data, and *location* on the map can be viewed:

Capture details			×
	Information Ren	avam	
G	Plate	Date & time	Capture point
	Camera	05/08/2024 10:31:39 am	CFI 007/2F - RADAR
THE REAL PROPERTY.	CFI 007/2F - Faixa 02	131342813	
	U Download PDF		
Location			
SILVEIRA	São José dos Pinhais	parties and	AQUAS BELAS
R. José Streng	0	Colombo Oligina R.	R. C. San San Ch
R Sao Paulo	CENTRO	a R Verissimo Marques	R Anucar
Googla	The second secon	R Ounze de No.	R. Adrianopowe 2024 Google Terma Report a map error

Figure 41 - Screen with Capture Details

Clicking *on the vehicle's Plate link* redirects to the *vehicle information* page, which presents all vehicle records. Only the desired results can be selected by clicking on the *Filter* button.



Pumatronix Lince V Delane	Home > System > Vehicle overview > Remaining		Search license	plate Q Ļ [→ Sign out
Dashboards ^	R 3 7		ب Export	u v Itit Filter Unmonitored ∨
Monitored vehicles Flow analysis Camera Availability Incidents System ^	Vehicle overview Class car: Make VV. Mode: GOL 16L ME5. Color: BRANCA. Year: uninformed.	Capture Capture point Capture point CauAATUBA - Saids Ferry Boat CaUOBÁ - Cabine 02 CAUOBÁ - Cabine 02	Camera_F8D4620132FF Camera_F8D46201422E	Date & time ↑ 03/05/2024 10:35:41 03/05/2024 10:10:35
User Agreement	a Sul a Sul a Sul a Sul a Carrela a Car	CAIOBÁ - Cabine 02	Camera, FBD420134AF	03/05/2024 10:10:34
(?) User Guide		Build ISC_2023-892-g189ac471 from 05/13/2024 12:13:12 pm Powerec	i by <u>Pumatronix</u> ®	

Figure 42 - Example of the Vehicle Information screen

## Convoy Report

The *Convoy Report* allows filtering of vehicle records by *License Plate* and *Equipment* (*Capture Point*) within a set of vehicles over a time interval (1-120 minutes).

In *Table* view mode, the following information is presented: *Date & Time, Interval* between captures, *Equipment (Capture Point), Camera, License Plate, Make, Model, Color,* and image of the *Capture*.

sempenho de cameras	Início > Relatórios >	Relatório de Comboio				Pesquisar p	aca (	Ω <u>Ω</u> [→
sperios de cionageni								
tecção de combolos identes	Relatório de Cor	mboio				Tabela	✓ 🕹 Exporta	r ∽ <mark>  țț∔ Fil</mark>
tema ^							Marca	
amento	ID da captura 🛧	Data & hora	Intervalo	Equipamento	Câmera	Placa	Modelo	Captura
saico de Câmeras								
a de Pontos de Captura	24972920	19/01/2024 16:36:25	all	CAIOBÁ - Cabine 02	Camera_F8D4620134AF		-	1
los Monitorados	and the second second						·	
s de Incidentes	a start						- 63107	
os Monitorados	24972534	19/01/2024 16:26:26	-00:09:59	CAIOBÁ - Cabine 02	Camera_F8D4620134AF	A204G	Selo.	
Captura & Câmeras								
s de Captura	24972583	19/01/2024 16:27:11	-00:09:14	CAIOBÁ - Cabine 02	Camera_F8D4620134AF	Ghange Sector		
ras								1000
rios ^	and the second se							1
rio de Capturas	24972613	19/01/2024 16:27:34	-00:08:51	CAIOBÁ - Cabine 02	Camera_F8D4620134AF	ANTHET	: 	
irio de Comboio								
rio de Monitoramento	24972645	19/01/2024 16:28:11	-00:08:14	CAIOBÁ - Cabine 02	Camera F8D4620134AF	M 59J	300	8
irio do SPIA-PRF						10		
ório de Log do Sistema								
ório Forense			Versão ISC_2	1023-497-g2f23bde0 de 18/01/2024	11:08:44 Powered by Pumatronix®		-	1

Figure 43 - Example of the initial screen in Reports > Convoy Report

In *Timeline* view mode, images of the convoy captures are presented within the selected time interval.





Figure 44 - Example of the initial screen of the Convoy Report in Timeline view mode

#### **Monitoring Report**

In addition to the *Date & Time, Capture Point, Camera, License Plate, and Capture* image, the *Monitoring Report* presents the number of times the vehicle was detected within the filtered period.

Pumatronix Lince V Dalane	<mark>Home</mark> ≻ Reports ;	> Vehicle Monitoring Report	Search license plate	e Q Q - Q -→ Sign out			
🕒 Dashboards 🗸 🗸	Vehicle Moni	toring Report					L Export ∨
🖵 System 🗸 🗸	ID 个	Date & time	Capture point	Camera	Plate	Description	User Picture
🖹 Reports 🗸 🗸	29454851	04/05/2024 5:48:36 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	some come
Capture Report	altoni				altoni		
Convoy Report	29454826	04/05/2024 5:48:34 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	
Vehicle Monitoring Report	dalati				Shiph		
SPIA-PRF Report	29454772	04/05/2024 5:48:32 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	
System Log Report							
Forensics report	29454756	04/05/2024 5:48:30 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	son
Incident Report	Cattor.				oattol.		
දිාුී Settings ∨	29454733	04/05/2024 5:48:28 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	- Marcolan
	29454653	04/05/2024 5:22:28 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	•
	29454572	04/05/2024 5:22:26 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	Service Andron Service
User Agreement	29454548	04/05/2024 5:22:24 pm	Teste Adroaldo	Teste Adroaldo 2	AAA0001	Teste 3	- Mare Orbit
User Guide		%°.	<u> </u>	<u> </u>			<u> </u>
			Build ISC 2023-892-m	189ac471 from 05/13/2024 12:13:12 pm B	owered by Pumatroniv®		

Figure 45 - Example of the initial screen in Reports > Monitoring Report

#### SPIA-PRF Report

The *SPIA-PRF Report* is only available when integration with the PRF's SPIA system is <u>configured in Settings</u>. It presents data such as Detected *Plate, Insertion Date (Lince), Update Date (SPIA), Make/Model/Color, Year, City/State, and Administrative and/or Judicial vehicle restrictions*.



Monitoramento Mosaico de Câmeras	Início > Rela	atórios > Relatório do SPIA-F	RF				Pesquisar placa Q ♀ [→ Sair
Mapa de Pontos de Captura Veículos Monitorados	Relatório	do SPIA-PRF					t <sup>†</sup> 1+ Filtrar
Regras de Incidentes	Placa 个	Data de Inserção (Lince)	Data de Atualização (SPIA)	Marca/Modelo Cor	Ano	Cidade Estado	Restrições
Trechos Monitorados Pontos de Captura & Câmeras	<u>A-6JC-6</u>	24/12/2023 14:32:57	18/02/2023	HONDA/CIVIC LXS FLEX PRETA	2009/2009	PARANAGUA PR	01 - RENAINF 53 - ALIENACAO_FIDUCIARIA_FILE_VEICULOS
Pontos de Captura Câmeras	<u>A==8H==</u>	13/01/2024 04:14:18	23/03/2023	GM/VECTRA GLS AZUL	2000/2000	PONTAL DO PARANA PR	•
Relatórios ^	<u>A 97</u>	22/12/2023 14:57:37	09/11/2023	I/MMC PAJERO SP. 4X4 GLS PRATA	2002/2003	CURITIBA PR	e de la companya de la
Relatório de Comboio Relatório de Monitoramento	A	03/10/2023 05:16:29	25/04/2023	FIAT/UNO CS PRETA	1990/1990	ITABERA SP	01 - RENAINF 55 - RESTRICAO_ADMINISTRATIVA_FILE_VEICULOS
Relatório do SPIA-PRF Relatório de Log do Sistema	<u>A=56</u>	06/01/2024 21:35:26	02/02/2023	VW/GOL 1.6 POWER GIV PRATA	2008/2009	CURITIBA PR	01 - RENAINF
Relatório Forense Relatório de Incidentes	Amenda	26/12/2023 23:58:09	04/12/2023	SCANIA/T112 HW 4X2 AZUL	1990/1990	GUARATUBA PR	- Shanned
Configurações	A	10/01/2024 04:46:52	16/02/2023	M.BENZ/709 VERMELHA	1990/1990	CURITIBA PR	
Usuários			Versão ISC_20:	23-497-g2f23bde0 de 18/01/2024 11:08:44	Powered by Pumat	<u>ronlx</u> ®	

Figure 46 - Example of the initial screen in Reports > SPIA-PRF Report

#### System Log Report

The *System Log Report* presents all accesses made in the system with *Date & Time, User,* and *Message* information showing the menu accessed by the user and whether they succeeded in accessing it or not.

Pumatronix Lince 🗸	Home > Reports > System Log Report				Search license plate	$Q  \hat{L}  [\rightarrow Sign out]$
🕒 Dashboards 🗸 🗸	System Log Report					↓↓↓ ↓↓↓ Filter
🖵 System 🗸 🗸	Date & time $\psi$	User		Message		
Reports ^	05/14/2024 10:48:49 am	daiane@pumatronix.com.br		/v1/report/monitoring-plate: Succe	55	
Capture Report	05/14/2024 10:48:34 am	daiane@pumatronix.com.br		/v1/location/list: Success		
Vehicle Monitoring Report	05/14/2024 10:48:19 am	dalane@pumatronix.com.br		/v1/report/convoy: Success		
SPIA-PRF Report	05/14/2024 10:46:57 am	daiane@pumatronix.com.br		/v1/report/convoy: Success		
System Log Report Forensics report	05/14/2024 10:46:34 am	dalane@pumatronix.com.br		/v1/report/convoy: Success		
Incident Report	05/14/2024 10:46:31 am	dalane@pumatronix.com.br		/v1/location/list: Success		
ද්රා Settings 🗸 🗸	05/14/2024 10:46:18 am	dalane@pumatronix.com.br		/v1/camera/list: Success		
	05/14/2024 10:46:18 am	dalane@pumatronix.com.br		/v1/report/register: Success		
	05/14/2024 10:46:18 am	daiane@pumatronix.com.br		/v1/vehicle/make: Success		
	05/14/2024 10:46-18 am	daiane@pumatronix.com.br		/v1/location/list: Success		
			Displaying 10 of 323 [1 - 10]			
🗂 User Agreement	Items per page: 10 👻	← 1 2	2 3 4 5 6 7 33	3 →	G	Go to page: 1
O User Guide						

Figure 47 - Example of the initial screen in Reports > System Log Report

#### Forensic Report

The *Forensic Report* is a feature of the Lince system that allows the creation of a report with free text input, including images and tables, related to any event involving a vehicle listed in the system. With the possibility of user participation in the comments field, the report author can grant editing access to specific users, creating a collaborative point in describing an event.



Create new report		×
Name *	Users with edit permission	
	Start typing	*
Description *		
Normal Arial 15px	Insert Align 🖸	
	Cancel Ap	pply



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Figure 49 - Initial screen for editing a report

#### Incident Report

The *Incident Report*, in addition to providing *Date* & *Time, Camera, License Plate, City, State,* and *capture* image information, also displays the *type of incident* detected during the filtered period.



Pumatronix Lince V Daiane	Home > Reports > Inc	ident Report				Search license p	late Q	Q [→ Sign out
🕒 Dashboards 🗸 🗸	Incident Report						لع Ex	port V
🖵 System 🗸 🗸	Capture ID 个	Date & time	Incident type	Camera	Plate	City	State	Capture
Reports ^	19026009	10/06/2023 8:38:08 am	Via blocked	Camera_F8D4620132FE	A 7 9	Guaratuba	Paraná	it comb
Capture Report Convoy Report	18018779	10/05/2023 11:55:54 am	Speeding	Camera_F8D462013325	0 <sup>11</sup> F 7 2	Guaratuba	Paraná	100
Vehicle Monitoring Report	- Adiance				Spin Per			dalario -
SPIA-PRF Report System Log Report	15796723	08/10/2023 9:19:46 am	Car rotation	Camera_F8D4620105B9	<u>E 6 1</u>	-	-	Ŧ
Forensics report Incident Report	15799260	08/10/2023 9:12:13 am	Speeding	ITSCAM 600 - Sala de Ensaios	0 2 3	Curitiba	Paraná	<b>Market</b> and the second
। ਨਿੰਨ੍ਰੇ Settings ^	15796725	08/10/2023 8:19:48 am	Border control	ITSCAM 600 - Sala de Ensaios	0 12 3	Curitiba	Paraná	
	15424334	08/03/2023 6:00:04 pm	Exclusive track	ITSCAM 600 - Sala de Ensaios	A 8.7	Curitiba	Paraná	
	15424201	08/03/2023 5:56:46 pm	Exclusive track	ITSCAM 600 - Sala de Ensaios	R 7 9	Curitiba	Paraná	and the contract
🗂 User Agreement	15424140	08/03/2023 5:55:58 pm	Exclusive track	ITSCAM 600 - Sala de Ensalos	Z <sup>1</sup> 1 5	Curitiba	Paraná	
🕐 User Guide			Build ISC_2023-892-g	189ac471 from 05/13/2024 12:13:12 pm   Pov	wered by <u>Pumatronix</u> ®			

Figure 50 - Example of the initial screen in Reports > Incident Report

# 5. Settings

This menu contains options for general adjustments available for the system, grouped under *Access Control*, *System, and Settings*. These will be addressed in the sequence of this manual, by configuration group.

# Access Control Configuration

To manage access to the system, users and access profiles must be registered. All actions performed in the system will be recorded in *the System Log*.

#### First Access

Upon accessing the Lince system address at <u>https://lince.app.br</u>, the first screen displayed is the login page, with fields for *Username* and *Password*:



Username	
🖂 Enter your username	
Password	
of Enter your password	$\odot$
Enter	
Forgot your password? Reset password	
New organization? Create a new account	
= = @	
Powered by Pumatronix®	

Figure 51 - Login Screen

To create an account, you need to access the "*Create a new account*" link and then fill out the form with the following fields:

- Organization Identification: Identification with CPF or CNPJ and Organization Name;
- Address: Valid user or company address with *Number and Complement, ZIP code, Country, State,* and *City;*
- Contact Person: Indication of the organization's contact with the insertion of the *Telephone;*
- Username (email): Valid user email address, intended for user identification in the system and receipt of monitored vehicle alerts;
- Password: User access protection to the system, with a minimum of 6 characters and must contain lowercase or uppercase letters combined with 1 numeral and at least 1 special character (@, #, \$, or %).

Organization Ide	ntification (CNPJ or CPF) *	ĸ	Name of the organization *	
Required field				
Address *			Number *	Complement
Zip code *	Country *	State *	City *	
	Brasil		• I	•
Contact *	Phone num	ber *	Username (e-mail) *	
Password *			Confirm password *	
		0		0
🗌 I read, und	derstand and agree with	n the <mark>Terms of U</mark>	se and Privacy Policy	
		Con	firm	

Figure 52 - New Account Registration



After filling out all the above data, an **access code** and a **confirmation link** will be sent to the email address provided.

By entering the value received by email and completing this procedure, it will be possible to log in to access the system.

Reset password

If you forget your password, the reset can be done through the "*Reset Password*" *link,* also located on the login page. Then, the registered email must be provided, and the request completed through the "*Continue*" button. A message with instructions for setting a new password will be received at the email address provided.

Account information can be accessed, and the previously registered password in the system can be changed by accessing "*My Account*," located in the upper left corner of the screen.



Figure 53 - Access to Account Information

On the next screen, the fields for *Current Password, New Password*, and *Confirm New Password* must be filled out:



My Account	×
Identification	
Name	
Daiane	
Customer identifier	
08823013000172	
Authentication code	
25aa5a98d96c4f4b076bf99141a64f37	
Username	
daiane@pumatronix.com.br	
API authentication code	
103b1d2316739d95d493ff9f265d102d39d892cae2	db325bea6
Password	
To keep the current password, leave the following fie	lds blank
Current password	
Enter your current password	0
New password	
	$\odot$

Figure 54 - Initial Password Change Screen

#### Language Setting

In Lince, it is possible to set the system language at the bottom of the login screen, which remains changed during access and can be modified in a new access. Optionally, the language can be set after logging in, next to the "*My Account"* field. Currently, Portuguese, *English*, or *Spanish* can be chosen.

#### Users

In the Users menu, it is possible to view all registered users, register new users, edit data, or remove users.



Pumatronix Lince V	Home > Settings > Access Control > Users	Search license plate $Q$ $\dot{\Box}$ $\dot{\Box}$ Sign out
	√ Users	
🖵 System	Q Search users	+ New user
	User Name ↑	Profile Groups Actions
දිබුදි Settings	account_lince+root()pumatronix.com.br     Pumatronix Equipamentos Eletronicos LTDA	Pumatronix O
	adroaldo.martins-postman@pumatronix.com.br Adroaldo Martins Filho - Postman 2	Pumistronix
User Groups	adioaldo martins@pumatronix.com.br Adroaldo Martins Filho	Administrador Guaratuba Cabines 🕑 🕞
	cristiane.davi@pumatronic.com.br Cristiane Davi	Administrador 🗵 🖸
	dalane@pumatronix.com.tor Dalane	Pumatronix,
	felip@pumatronix.com.tr FelipeCamargo	Administrador
	tsrael.neto@pumatronk.com.br terael	Administrador E O
	julio.furfanetto@pumatronix.com.br Julio	Pumatronix 🖉 🗿
	martin.meier@pumationix.com.br Martin Meier - Eng Pumatronix	Administrator
User Agreement	natalie scrobot@pumatronix.com.br Natalie Scrobot	Administrador
	Build <b>ISC_2023-892-g189ac471</b> from 05/13/2024 12:13:	12 pm   Powered by <u>Pumatronix</u> ®

Figure 55 - Example of the initial screen in Settings > Access Controls > Users

Registering a new user by clicking on "+ New User" opens a window with the following fields to be filled out:

- Name
- Email
- Password
- Access level (Administrator or Client)
- Sub-level of access

After filling out the required information, it is necessary to save the information by clicking on the "*Apply*" *button*.

Create a new user			×
Basic information			
Name *			
Account information			
E-mail *			
Password * 🕙		Access level *	
Enter your password	0		~
Access sub level *			
	•	I ignore user group validation	
		Cancel	Apply

Figure 56 - Initial screen for registering a new user



#### User Groups

In Lince, access control is possible using the *User Groups* functionality in conjunction with monitoring. By adding a user to a group, all members can receive notifications regarding a monitoring event created in *System > Monitored Vehicles*, which may refer to a *Monitoring Rule* and/or a *Monitored Vehicle*, respectively.

In the *User Groups* menu, you can view all created user groups, edit existing ones, or remove them, and register a new *User Group by clicking "+ New Group,*" which opens a window with fields to be filled out with the *Name* and *Description*.

Pumatronix Lince V Dalane	Home > Settings > Access C	ontrol > User Groups				Search license plate	$Q  \hat{Q}  [ \rightarrow \text{ Sign out}$
🕒 Dashboards 🗸 🗸	User Groups						+ New group
L System ✓	Caiobá Cabines 0 Users - 0 Capture points						c o
Settings     Access Control     Users	Guaratuba Cabines 1 Users - 3 Capture points						
User Groups	6 <sup>300</sup>			Displaying 2 of 2 [1 - 2]			
Data sharing Customers	Items per page: 10 💌			$\leftarrow$ 1 $\rightarrow$			Go to page: 1
System							
Customization Integrations Information Protection							
1							
User Agreement							
(?) User Guide			Build ISC_2023-892-g18	9ac471 from 05/13/2024 12:13:12 pm   Po	wered by <u>Pumatronix</u> ®		

Figure 57 - Example of the initial screen in Settings > Access Controls > User Groups

To add users to a group:

1) Click on the group name, and the new page displays the corresponding users:



- 2) Click on the *+ Add User* button.
- 3) Search for and select a user from the registered ones.
- 4) Click on Add:



dd users	×
Start typing to add	
	Cancel

#### Data Sharing

In the *Data Sharing* option, it is possible to share information *from a Capture Point* or a specific image capture device with the <u>*Clients*</u> previously registered in the system. The shares are organized in the *Received* and *Shared* tabs:

C Dashboards	Home > Settings > Data sharing		Search license plate Q	↓ [→ Sign out
및 System ✓				
🖹 Reports 🗸 🗸	Data sharing			+ New sharing
දිරා Settings 🗸 🗸	Received Shared			
Access Control				
Users	Received by ↑	Capture points	Cameras	
User Groups	Pumatronix	TESTE		
Data sharing		Displaying 1 of 1 [1 - 1]		
Customers				
System	Items per page: 100 🔻	$\leftarrow$ 1 $\rightarrow$	Go to page	: 1 >
Customization				
Integrations				
Information Protection				
User Agreement				
⑦ User Guide		Build ISC_2023-892-g189ac471 from 05/13/2024 12:13:12 pm   Po	wered by <u>Pumatronix</u> ®	

Figure 58 - Example of the initial screen of received data in Data Sharing



Ċ	Dashboards	~ •	Home > Settings > [	Data sharing		Sear	ch license plate	Q	Û	[→ Sign out
Ţ		~								
Đ		~	Data sharing						+ N	ew sharing
ŝ		~	Received Shared							
Ac										
			Shared with ↑	Capture points		Cameras				
			11059541963	CAIOBÁ - Cabines de cobrança 📀	3	Camera_F8D4620132FF	Camera_F8D46201	34B2 🛞		
	Data sharing				Displaving	11 of 1 [1 - 1]				
Sy			Items per page: 100 💌		~	$1 \rightarrow$		Go to page:	1	$\rightarrow$
Ď										
?	User Guide	Ţ		Build ISC_2023-8	92-g189ac471 from 05/13	3/2024 12:13:12 pm   Powered by P	umatronix <sup>©</sup>			

Figure 59 - Example of the initial screen of shared data

Sharing data by clicking "*+ New sharing*" opens a window to select the client who will have access to the data and the capture point or camera to be shared. After filling in the information, click on the "*Apply*" button to save the information.

New sharing	×
Share with *	
	Ŧ
Conture noint	Comoro
Capture point	Camera
Capture point *	
	Ŧ
	Cancel Apply

Figure 60 - Initial screen for registering a new sharing

#### Clients

In the *Clients* menu, you can view registered clients, add new clients, and edit or remove them from the system.



Ċ	Dashboards	~ 3	Home > Settings > Access Control > Custor	ners	Search license plate	Q Ļ [→ si	gn out
Ţ		$\sim$					
Ð		~	Customers				
ŝ	Settings	^	Q Search Customers			+ New cust	tomer
Ac			Name 1			A	ctions
			Cliente Demonstração			Ľ	Θ
			mato.			IN IN IN	
			Pumatronix			ON E	Θ
	Customers		Pumatronix Equipamentos Eletronicos LTDA			Salar C	Θ
Sy	stem			Displaying 3 of 3 [1 - 3]			
			Items per page: 10 🔻	$\leftarrow$ 1 $\rightarrow$	G	o to page: 1	$\rightarrow$
Ľ							
?	User Guide		Build ISC	_ <b>2023-892-g189ac471</b> from 05/13/2024 12:13:12 pm   Pow	ered by <b>Pumatronix</b> ®		

Figure 61 - Example of the initial screen in Settings > Access Controls > Clients

Registering a new client by clicking "+ New Client" opens a window to fill in the following fields:

- Organization identification: CPF or CNPJ identification
- Organization name
- Address: valid address of the user or company indicating *Number and Complement,* ZIP code, Country, State, and City
- Contact person: indicate the representative person of the organization who is responsible for contact, indicating their *Telephone* and *Time Zone*
- Verticals: select the set of standard functionalities according to the client's segment

After filling in the information, click on the "*Apply*" button to save the information.

Basic informa	tion				
O		005)	Name of the owner in		
organization ide	muncation (CNPJ 0	CPF)	Name of the organiza	ation	
Address *			Address		Address complement
			number *		
Zip code *	Country *	State *		City *	
	Brasil		•		•
Contact *		Phone number *	Timezone		
					v
Verticals					

Figure 62 - Initial screen for registering a new client



# System configuration

The options for *Customization, Integrations,* and *Information Protection* constitute the system configuration available for Lince.

#### Customization

The Lince system interface can be customized in the following options: it is possible to change the name displayed on the main screen (located in the upper left corner), the header image (located next to the left of the name), and the primary and secondary colors of the system.

Pumatronix Lince 🗸 Dalane	Home > Settings > System > Customization		Search license plate	QĻ	[→ Sign out
🕒 Dashboards 🗸 🗸	Customization				
G System ✓	Main screen name				
<ul><li></li></ul>					
Access Control Users User Groups Data sharing Customers	Image Select Image Restore default				
System Customization Integrations Information Protection	Login image LINCE Select Image Restore default				
	Primary color Secondary color           #323E54         #082BFC	Restore defauit			
User Agreement				Save	customization
(?) User Guide		Build ISC_2023-892-q189ac471 from 05/13/2024 12:13:12 pm Powered by Pumatronix®			

Figure 63 – Example of the initial screen in Settings > System > Customization

#### Integrations

In the *Settings* > *Integrations* menu, it is possible to enable and configure integration of the Lince system with the security systems *Detecta-SP* and *SPIA-PRF*. Integration with *Telegram* allows the sending of monitoring alerts, and with *VMS*, integration with a video recording system can be configured.



0	Dashboards	~ ,	Home > Settings > System > Integrations	Search license plate $Q  J  Sign out$
₽ •		~	Integrations	
E	Reports	~		
\$	Settings	^	CCONET Detecta SP (BR) SPIA PRF (BR) Telegram VMS	
			Enabled	
				_
				Save
	rstem			
	Integrations			
Ů	User Agreement			
?			Builid ISC_2023-892-g189ac471 from 05/13/2024 12:13:12 pm   P	owered by <b>Pumatronix</b> ®

Figure 64 - Example of the initial screen in Settings > System > Integrations

#### Integrate with Detecta SP

To integrate the system with Detecta SP, it is necessary to select Enabled and click on Save:

Integrations	
CCONET Detecta SP (BR) SPIA PRF (BR) Telegram VMS	
Enabled	
	Save

Figure 65 - Configuration screen for integration with Detecta SP

When the integration is enabled, it is necessary to specify which devices will receive the integration data by accessing *System > Cameras.* When locating the device in the list that will be integrated with Detecta SP, *clicking Edit* opens the window with the device registration information:

Geral Detecta SP S	pia PRF			
Nome *		Status		
Camera_F8D>>>>B2		🖌 Ativo		
Ponto de Captura *	Sentido *		Número de série * !	
CAIOBÁ - Cabine 01	▼ Câmera Diante	ira 🔻	F8D) B2	
Salvar imagens com placa lida Ativo Configuração VMS		Salvar imagens se	m placa lida	
Nome da camera	VMS	*		

Figure 66 - Initial configuration screen for device integration with Detecta SP



In the *Detecta-SP* tab, the device ID provided with PM-SP must be entered:

Geral Detecta SP Spia PRF	
ID câmera PM *	
0	
78	

Figure 67 - Configuration screen for device integration with Detecta SP

Integrate with SPIA PRF

To integrate the system with *SPIA PRF*, it is necessary to select *Enabled*, fill in the *Name*, *Key*, and *Access Token* data, and *Save*. This integration occurs on a per-user basis, meaning each account has its agreement with PRF and its access token to the PRF system. Therefore, it is only possible to send images and records to SPIA using the device identifier, as registered with PRF.

CCONET De	etecta SP (BR)	SPIA PRF (BR)						
			Telegram	VMS				
Name *								
Key *								
Access token *								
								s

Figure 68 - Configuration screen for integration with SPIA PRF

#### Integrate with Telegram

The integration setup with the Telegram application must be performed in both pieces of software. Firstly, in the Telegram app on a mobile device:

1) Create a new channel (New Channel):



2) Add the contacts that will participate in this channel:





3) Give the channel a name and a brief description:

÷	New Channel
Chain Pur	nel name na Channel
Desc	(prior (optional)
Car	al de Teste da Purnatronix
You c	an provide an optional description for your channel.
1 me	mber
e	Familia - Suéllen

4) Once the channel is created, add the Pumatronix bot by clicking on the channel edit icon:

×	Profile	0
		Edil
Pum	a Channel	
2 SUDS	cribers	
()	Canal de Teste da Pumatronix Info	
Ð	https://t.me/+xvat0FYiQcsxYTEx Link	

5) Click on Administrators and then on Add Admin:



÷	Edit
Chane	el nome na Chennel
Can	al de Teste da Fumatronia
-	
8	Channel Type Privata
	Discussion And
હે	Invite Links
0	Reactions 14/16
	Sign Messages
٢	Administrators

6) In the search bar, search for **@Pumatronix\_Lince\_Bot.** For now, the name will appear as *lince-dev*.

$\leftarrow$	Add Admin	
@Pun	natronix_Lince_Bot	
	lince-dev bot	

7) Then, the permissions of the bot in the channel should be configured and click on **OK**;





8) Once the bot is added, it will be shown in the list of *Subscribers*:



With the channel created, the bot will be able to send messages to the users. Then, the following steps should be executed:

 Add to your contacts list the bot named *IDBot - @username\_to\_id\_bot*. It will be responsible for giving us the chat\_id that will be used within Lince.





2) Access the newly created channel and copy the access link to the channel.



- 3) Start a conversation with the IDBot bot by sending the following commands:
  - a. /start
  - b. <u>https://t.me/+xvat0FYiQcsxYTEx</u> (the link copied in the previous step).
- 4) The Bot will return an ID starting with the value -100. To integrate the system, the bot, and the users of the channel, this value must be entered in *the Chat ID* field, located in the *Integrations* > *Telegram* area".



Figure 69 - Chat with IDBot on Telegram



ntegrations			
CCONET Detecta SP (BR) SPIA F	PRF (BR) Telegram VMS		
Add Group			
Get your groups chat IDs from Telegram	m, then add them in this screen.	After that, add Lince's bot to your groups in Telegram.	
Name	Chat ID		
		Add	
Groups			
Enabled	Name 个	Chat ID	Actions
- and a state of the	TEste	-1001774281007	Θ
		Displaying 1 of 1 [1 - 1]	
Items per page: 100 🔻		$\leftarrow$ 1 $\rightarrow$	Go to page: 1 $\rightarrow$
			_
			Save

Figure 70 - Configuration screen for integration with Telegram

#### Integrate with VMS

In the VMS tab, it is possible to enable integration of the Lince system with a video recording system (VMS), in which the image from the CCTV device is recorded by the VMS. At the moment a license plate is captured, the recording is made considering seconds before and after the passage, providing a view of the passage context.

When accessing the VMS tab, it is possible to register new integrations, and the existing ones are displayed, with the options to edit or remove:

Username ↑	Model	URL	Protocol	Format	Timezone	+ New integratio
admin	Digifort	adroaldo.ddns.net:554	RTSP	VI	GMT-3	o <sup>nd</sup> 2 O
ms per page: 100 💌			← 1 →			Go to page: 1

Figure 71 - Configuration screen for integration with VMS

The registration of a new VMS video integration in *+New integration* opens the window to fill in the following fields:

- URL
- User
- Password
- Model
- Protocol: select between the options RTSP and RTSPS;
- Format: select between AVI and MP4;
- Time Zone: select the corresponding time zone.



After filling in the information, click the *Apply* button to save the information.

URL *				
Enter the URL				
Username *		Password *		
Enter the username		Enter the pass	0	
Model *	Protocol *		Format *	
Digifort		<b>~</b>		~
Timezone *				
	•			

Figure 72 - Initial screen for registering a new VMS integration

#### Information Protection

Lince allows the inclusion of an extra factor *of Information Protection*, which is the application of a watermark on documents containing confidential information, preventing the leakage of confidential data. Thus, when the application of a watermark is selected, the document generated by the system records the information of the user's email generating the document or the client's CNPJ + the user's email. These data are displayed in the header, footer, and diagonally in the body of the generated document.

By selecting the client to be used in the watermark and selecting the option to *Apply a watermark to documents containing confidential information.* The text to be displayed in the watermark can be *Email* or *CNPJ* + *Email*. After selecting the information, click on *Save* to apply.



Figure 73 - Example of the initial screen in Settings > System > Information Protection



# 6. Terms of Use

In this menu, the file of *the Lince USAGE AGREEMENT is* available in.*PDF format.* This document contains the terms and rules for the user of the system to use the service being offered.

If you have any questions about using Lince, please contact Pumatronix technical support at support@pumatronix.com or <u>WhatsApp</u> (41) 99203-8327.

# 7. User Guide

In this menu, the *User Guide* file is available. *PDF format.* This is the latest published version of the Integration Manual.

# 8. Lince API Documentation

Lince has a Rest API for integration with other applications, and the documentation of this API uses the *open-source* Swagger application. Since the available operations may vary depending on the application's version, the documentation must be accessed through the Lince system itself: <u>https://swagger.lince.app.br</u>.



