INTEGRATION MANUAL / REVISION 1.1_2025





ITSCAMPRO

EFFICIENT VEHICLE AND DANGEROUS CARGO MONITORING

Integration



Pumatronix Equipamentos Eletrônicos Ltda.

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Change History

Date	Version	Updated content
12/01/2022	1.0	Initial Version
05/15/2025	1.1	Content update for software version 1.16.0 (SAD-825)



Overview

This document aims to guide the developer in the use of available operating interfaces that allow operating the ITSCAMPRO 1.16.0 software, being the software responsible for the management of the information produced, with the objective of monitoring vehicles through automatic license plate reading (LPR) or general characteristics of the vehicle, in addition to detecting dangerous loads transported. If you have any questions, please contact Pumatronix technical support.



According to the firmware version applied to the device accessed, the web access interface is differentiated and some functions can be made available only in the most current versions.

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1. ITSCAMPRO Web Interface

The home screen of the ITSCAMPRO web interface has the functions always visible and available for access and displays the Mosaic, when configured as the home page of the logged in User, with the latest captures made by the registered devices, which are presented in mosaic format, configured for the selected size: 1x1, 2x2x, 3x3, 4x4, 5x5 or 6x6.



Figure 1 - Features available in the interface: 1) Access to the home page, 2) Main Menu, 3) System Menu, 4) Registration Menu, 5) Reports Menu, 6) Search Plate Function, 7) User Account Data and Logout, 8) Status Bar

2. System Menu

Users

ITSCAMPRO allows the control of access to equipment independently by User *Groups* and allows different access levels to be made available to each user of the system, it is possible to register a user with full permission to access the system (*Root Profile*) and a user with restricted access to some reports and Monitoring of vehicles and traffic (*Operator*).



2	Users							?
Q		10 V Received tota	al of 14 user. Presenting (1 up to 10)				+ Nev	w user
	Profile	Group	Name	E-mail	Login	Language	Act	tions
Adı	ministrador	GERAL	Software Development	felipe@pumatronix.com.br	dev.software	Portuguese	Ø	×
Cor	nvidado	Comercial	Marcos Vinícius Boeira	marcos.boeira@pumatronix.com.br	marcos.boeira	Portuguese	Ø	×
Cor	ordenador	Prefeitura de SJP	Fernanda Bastos	fernanda.bastos@sjp.pr.gov.br	fernanda.bastos	Portuguese	Ø	×
Cor	ordenador	GERAL	carbigdata	Não Cadastrado	carbigdata	Portuguese	Ø	×
Roo	ot	GERAL	Root	Não Cadastrado	root	Portuguese	Ø	×
Roo	ot	GERAL	Diego Charlau Oku	diego.charlau@pumatronix.com.br	diego.charlau	Portuguese	Ø	×
Roo	ot	GERAL	Joelcio Pranger	joelcio@hexon.com.br	joelcio.pranger	Portuguese	Ø	×
Roo	ot	Prefeitura de SJP	Eduardo Umbria	eduardo.umbria@sjp.pr.gov.br	eduardo.umbria	Portuguese	Ø	×

To add a new user, click *+New User* and the screen displays the fields for completion, separated into four tabs:

Field	Description			
General Tab	Several Equipment Options Permits Name Name Email E-mail Login A Login Password I=72[0-9][@#\$%] minimum 6 Profile /* Root Group Initial page			
Name	required to create a name for user identification			
E-mail	register a user email to send system data			
Login	create login details using alphanumeric characters (max. 50 characters)			
Password	create a password using at least 6 characters and a maximum of 64 characters (the password must contain lowercase or uppercase letters combined with a number and at least 1 special character, which can be @, #, \$ or %)			
Profile	select a profile that contains the access permissions to the desired screens			
Home Page	select what will be the home page displayed after login			



Field	Description			
Group	select a <i>Group</i> that will associate the equipment and monitoring list of the group with the user			
Equipment Tab	New user General Equipment Options Permits Equipment Available User Equipment • CFI 001/2F • • CFI 002/2F • • CFI 004/4F • • MOBILE - Eduardo (DEMUT • Select All >			
Available Equipment	select which equipment the user will have access to and drag to the User Equipment column to allow access			
User Equipment	view/remove equipment that the user can access			
Options Tab	Seneral Equipment Options Permits Language Portuguese			
Language	select the display language of the interface for the user, among the possible: <i>Portuguese, English or Spanish</i>			



Field	Description				
	General Equipment Options Permits Root Imactive Imactive License plate Editor Imactive Imactive Group administrator Imactive Imactive delete records Imactive Imactive				
Permissions Tab	Export Data				
Root	the user with the <i>Root</i> permission is the primary administrator of the system. In addition to being able to configure the groups and user, Root is allowed to do server administration tasks				
License Plate Editor	the user with this permission can change the plate information detected in the records				
Group Admin	the user with <i>Group Administrator</i> permission, can make changes to the group capture equipment and device settings, and can manage the monitored vehicles				
Delete Records	select whether the user has permission to delete system records				
Export Data	select whether the user has permission to export system record data				

Groups

The User Groups setting aims to restrict access to equipment and the list of monitored vehicles when associating created users. Likewise, it allows to restrict access to the captures made only by the equipment that belongs to the group associated with the user.

G	roups		?
Q	10 V Received total of 3 groups. Prese	nting (1 up to 3)	+ New group
	Group	Description	Actions
Comercial		Comercial Pumatronix	C ×
GERAL			e ×
Prefeitura de SJP	,	Prefeitura de SJP	Z ×
« <		1	> >>

Revision 1.1

To add a new user, click +New Group and the screen displays the fields to fill in:



Field		Description			
		🐸 New group		×	
		Name Name of group Description Group descrip		roup	
		Equipment Av	ailable	Group Equipment	
		Q CFI 001/2F			
		♥ CFI 002/2F			
		♥ CFI 003/2F			
		Q CFI 004/4F			
		• MOBILE - Eduardo (D	EMUT		
		Select All >		< Deselect all	
		~		~	
				1	
Name	required to create	e a name for grou	p identifica	ation	
Description	enter group description				
Enable Denatran Alerts	select whether Denatran alerts for the group will be Active or Inactive				
Available Equipment	select which equipment is released for group access and drag to the <i>Group Equipment</i> column to allow access				
Group Equipment	view/remove equipment that the group can access				

Profiles

The *Profiles* configuration aims to restrict access to the ITSCAMPRO System screens by associating with *Users* or *Groups*. By default, users with a *Root* profile can search the Vehicle Monitoring in user groups other than the one with which it is associated.



Profiles ? Q 10 V Received total of 5 profiles. Presenting (1 up to 5) Windows Mosaic, Security panel, Traffic panel, Map, About, Equip nent, Cameras, Monitored vehicles, Monitored roads, Monitoring Vehicle, Correlations, Registers, Traffic Volume, Speed & Time, Origin and Destination, Altered license plates, Search Lice 🕑 🗙 Admir ador 🖉 🗙 Convidado Registers 🖉 🗙 Coorder Mosaic, Security panel, Traffic panel, Map, About, Monitored vehicles, Monitoring Vehicle, Correlations, Registers, Traffic Volume, Speed & Time, Origin and Destination, Search License Plate 🕑 🗙 Operador Mosaic, Security panel, Traffic panel, Map, About, Monitored vehicles, Monitoring Vehicle, Correlations, Registers, Traffic Volume, Speed & Time, Origin and Destination, Search License Plate itly panel, Traffic panel, Map, About, Users, Groups, Profiles, System configurations, Date / Time configurations, Network configurations, Email server, License, System maintenance, Equipment, Cameras, Monitored vehicles, Mor ring Vehicle, Correlations, Registers, Traffic Volume, Speed & Time, Origin and Destination, Altered license plates, System Log, Search License Plate, Notifications, Devices, Search for similarity, Grouping, Search for similarity, Date / 🗷 🗙 Root roads, M 1 « < > >>

To add a new user, click +New Profile and the screen displays the fields to fill in:

Field	Description				
	🐸 New profile 🛛 ×				
	Name Shame of profile				
	Available windows Windows in use				
	Traffic panel				
	🖵 Мар				
	About				
	Select All >				
Name	required to create a name for profile ID				
Available Screens	select which screens are allowed for profile access and drag to the <i>Screens in use</i> column to allow access				
Screens in Use	view/remove the allowed screens for the Profile				

System Settings

The operation and functioning of the ITSCAMPRO System in various environments and infrastructure requires that the *System Settings* are correctly applied in the fields described:



Field	Description		
General Tab	<complex-block></complex-block>		
System Name	enter the name that will be displayed on the system login and access home screen		
System Description	enter brief description to be displayed on the system login and access home screen		
Language	select the display language of the interface		
System Logo	change the system logo by inserting the image to be displayed on the login screen		
Include CSV converter	select whether the CSV converter will be <i>Enabled</i> or <i>Disabled</i> (<i>it is recommended to enable this option when the CSV file is generated on Windows</i>)		
<i>Term of Mandatory</i> <i>Use</i>	select whether the Mandatory Use Term which contains considerations on use and privacy policies that are presented to the user upon first login will be <i>Enabled</i> or <i>Disabled</i>		

Field	Description				
	System configurations	C External access			۶ ۲
External Access	Chennal access Map Calimage storage D Mobile application	External IP/Host of ITSCAMPRO Service communication port Camera communication port Camera communication port Camera communication port		(Standa (Standa (Standa	e ') e 2003) e %000) 2
Tab	III Esternal servers 4/ SDAP & DENATION AL CON	Enable HTTPS Certificate	Yes No Get Click to select a certificate Click to select a certificate	Use standard	
		w be behind	a NAT it is po		some of the ports used in
	communication wit	h the service	a NAT, it is po		some of the ports used in
ITSCAMPRO IP/External Host	enter the external IP or internet address where ITSCAMPRO will be visible on the internet since it is possible for the system to be accessed from outside the company intranet. This setting is very important for automatic status updates				
<i>Service Communication Port</i>	enter communication port that the system must use to communicate with the ITSCAMPRO service for monitoring. In the case of an external access, it is necessary to include the forward network of that port to the server IP				



Field	Description
<i>Cameras</i> <i>Communication Port</i>	enter port through which capture devices and equipment such as WetecFF and ITSCAMPRO Mobile will send the captures to the ITSCAMPRO server
Enable HTTPS	select whether the use of the HTTPS protocol in the graphical interface will be enabled
Certificate	click the field to upload the external certificate file or select Use default to use a certificate signed by Pumatronix

Field	Description		
Map Tab	System configurations ?		
Google Map Service Key	enter Google Maps Services Access Key		
Show Equipment List	select whether the list of equipment in the Map view will be Enabled or Disabled		
Enables Equipment Pooling	select whether the functionality of grouping the nearby equipment in the Map view will be <i>Enabled</i> or <i>Disabled</i>		
<i>Image Storage Tab</i>	System configurations ? Image storage		
Image Storage	set the time that the images will remain in ITSCAMPRO, which allows to keep the storage from 3 months up to 2 years or <i>Limited by Free Storage</i> , which removes the stored images considering the <i>Free Storage configuration</i>		
Free Storage	set the minimum free HD space that should be maintained in the system, which can be 5% to 50%		
Cleaning Margin	configure the margin (from 1% to 10%) that must be maintained with each HD cleaning operation, to prevent the system from cleaning with each new image when reaching the minimum HD limit		



Field	Description	
<i>Mobile Application Tab</i>	System configurations	с С
Enable Mobile App	select whether integration with the mobile application will be Enabled or Disabled	
Mobile App Port	configure the port that will be used for communication with the mobile application	

Field	Description	
	■ Sending to FTP server	
<i>External Servers tab > Sending to FTP Server</i>	Enables sending FTP server Imabled Use FTPS Imabled FTP server IP/Host Imabled FTP communication port Imabled FTP login user Imabled FTP login password Imabled File format Imabled FIle format Imabled	
Enables FTP Server Sending	select whether sending to FTP server will be Enabled or Disabled	
Use FTPS	select whether the use of FTPS will be <i>Enabled</i> or <i>Disabled</i> . When enabled ITSCAMPRO will use FTPS instead of unsecured FTP	
IP/Host FTP Server	configure the IP address or HostName of the server to be sent	
FTP Communication Port	enter the port that should be used in communication with the FTP server	
FTP Login User	enter user to login to FTP server	
FTP Login Password	enter password for FTP server login	
Format File Name	 customize the format that the files will be saved on the FTP server. <i>cameraname:</i> The tag allows you to use the camera name in the file <i>cameratype:</i> The tag allows using the camera type in the file path, differentiating when it is a front camera ('D') from a rear camera ('T') <i>captureid:</i> The tag is exchanged for the capture identifier. This integer can be formatted as well (ft. %010d - use 10 digits by putting 0 to complete) 	



Field	Description	
	 <i>datetime:</i> The tag can be used whenever it is necessary to include the date/time in the file name. This accepts the default date/time formatting fields (yyyy - year MM - month dd - day HH - time mm - minutes ss - seconds) <i>equipment:</i> The tag allows you to use the equipment identifier in the path of the file being saved on the FTP server <i>imageid:</i> The tag is exchanged for a unique image identifier <i>plate:</i> The tag is exchanged for the plate read by the OCR <i>probability:</i> The tag allows the user to put the overall probability of the plate in the name of the FTP file 	
File Type	<pre>select the file format from the available formats:</pre>	
External Servers tab > Forwarding records to another ITSCAMPRO	Forwarding record to other ITSCAMPRO Enables Forwarding of records Other ITSCAMPRO server IP/Host Communication port of the other ITSCAMPRO Use legacy protocol	
Enables Record Forwarding	select whether to <i>Enable</i> or <i>Disable</i> the forwarding of capture records to another ITSCAMPRO server	
IP/Host from the other ITSCAMPRO server	configure IP or HostName to access the other ITSCAMPRO server	
Communication port of the other ITSCAMPRO server	enter the communication port between ITSCAMPRO and the other ITSCAMPRO server	
Use legacy protocol	select whether the use of the legacy protocol in the forwarding of records for an old version of ITSCAMPRO will be <i>Enabled</i> or <i>Disabled</i>	



Field	Description		
	≣ Lince		
<i>External Servers Tab > Lince</i>	Lince integration Environment Customer ID Authentication token Connection timeout Reading timeout	☑ Enabled □ Disabled ○ ○ ○ ○	
Lince Integration	select whether integration with the Lince	server will be Enabled or Disabled	
Environment	select server environment type		
Client Identifier	enter customer identifier		
Authentication Code	enter server authentication code		
Connection Timeout	set the maximum time that will be expected	ed for accepting a connection on the server	
Response Timeout	set the maximum time that will be expected	ed for receiving response from the server	
External Servers tab > WebService Rest	E External servers - WebService Integration with WebService Rest URL WebService Number of attempts Connection timeout Reading timeout Type of WebService Authorization header value Filter by Vehicle Class Name of ID field Name Date/Time format Name of License plate field Plate Position Discards records without a license Name of ID field in the camera Name of ID field in the equipment Name of ID field and the equipment Name of ID field in the equipment Name of ID field in the equipment Name of ID field and the equipment Name of ID field in the equipment Name of longitude field Name of Vehicle Class field In addition to access by application, the i forwarded to an FTP (File Transfer Protocor Rest or other external servers that are co	e Rest	



Field	Description	
WebService Rest integration	select whether sending to a WebService Rest will be Enabled or Disabled	
WebService URL	set WebService URL	
Number of Attempts	set the number of attempts to send a record	
Connection Timeout	set the maximum time the server will wait for a connection return	
Reading Timeout	set the maximum time that the server will wait for a return of the information sent	
WebService Type	select the type of data that will be sent and received in WebService that can be of type JSON or Multipart	
Authorization Header Value	define the information that will be sent in the 'Authorization' field in the REST request	
Filter by vehicle class	select which vehicle classes will be routed to the WebService Rest that allows the options: <i>All, Unidentified, Car, Motorbike, Truck or Bus</i>	
ID Field Name	set the name of the record identification field when sending to <i>WebService</i> . If the field is left blank this field will not be added on sending	
<i>Field Name Date/Time</i>	customize the name of the date/time field when sending to <i>WebService</i> . If the field is left blank this field will not be added from sending	
Date/Time Format	customize the format that will be sent the Date/Time	
Name Plate Field	customize the name of the plate field when sending to <i>WebService</i> . If the field is left blank this field will not be added from sending	
Plate Position	insert coordinates of the plate position in the image (x0,y0;x1,y1;x2,y2;x3,y3)	
Discard Registration without Plate	select whether the discard of unmarked records will be <i>Enabled</i> or <i>Disabled</i> . When enabled, records without a plate will not be sent to WebService	
Camera ID Field Name	customize the name of the capture/lane device identifier field. If the field is left blank this field will not be added on sending	
Equipment ID Field Name	customize the name of the equipment identifier field. If the field is left blank this field will not be added on sending	
Latitude Field Name	customize the name of the latitude field. If the field is left blank this field will not be added to sending	
Longitude Field Name	customize the name of the longitude field. If the field is left blank this field will not be added to sending	
Image Field Name	customize the name of the image field. If the field is left blank this field will not be added to sending	
Vehicle Class field name	customize the Vehicle Class Name field when sending to WebService. If left blank, will not be added to sending	



Field	Description		
	I Sending to PM-PR WebService		
External Servers Tab > Submission to PM-PR Web Service	Integration with PM-PR URL WebService URL WebService Number of attempts Connection timeout Reading timeout Minimum degree of fidelity Aximum degree of fidelity The ITSCAMPRO system allows integration with the PM-PR intelligence system. The PM-PR WebService needs the lane to be configured, the lane identification is configured in the		
	External Identified field of the capture device. In addition to the lane identifier, the location and a valid plate are requirements for the records that are sent to the PM-PR.		
Integration with PM- PR	select whether integration with PM-PR will be Enabled or Disabled		
Web Service URL	configure the URL that will be used to access the PM-PR WebService		
Number of Attempts	set the maximum number of attempts to send a record to the PM-PR server		
Connection Timeout	set the maximum time that will be expected for the acceptance of a connection on the server, between 0 to 60,000 milliseconds		
Reading Timeout	set the maximum time that will be expected for receiving response from the server, between 0 to 60,000 milliseconds		
Minimum Degree of Loyalty	define the minimum probability (between 0% and 100%) of the plate certainty so that ITSCAMPRO understands that the plate is valid and sends the image for validation. If the probability is lower, the image will not be sent in the record		
Maximum Degree of Loyalty	define the minimum probability (between 0% and 100%) of the plate certainty so that ITSCAMPRO understands that the plate is valid and sends the image for validation. If the probability is higher, the image will not be sent in the record		
	≣ Integration with SPIA system		
External Servers Tab > Integration with the SPIA System (PRF)	URL https://services.prf.gov.br/servicos/prf/spla, Access Key & 6F25E7F046F8406AC4442F6EF4BCA5 Company Name PUMATRONIX Access Token & eyJ4NXQl0iJNell4TW1Ga09HWXdNV0kwWl Attempts Connection Timeout Read Timeout O		
	The ITSCAMPRO system allows integration with the PRF intelligence system called SPIA. The SPIA-PRF WebService needs the lane to be configured, lane identification is configured in the External Identified field of the capture device. In addition to the lane identifier, location is one of the requirements for records that are sent to the SPIA-PRF.		
URL	enter the URL that will be used to access the SPIA-PRF WebService		
Access key	enter the access key so that the PRF server accepts the system records		



Field	Description		
Company Name	configure the name of the company that is registered as responsible for the system that is sending the records to SPIA		
Access token	enter <i>Access Token</i> to access the SPIA-PRF WebService (???systemconfig.help.spiaintegration.accesstoken???)		
Attempts	set the maximum number of attempts to send a record to the SPIA-PRF server that can be 1 to 5 times		
Connection Timeout	set the maximum time that will be expected for the acceptance of a connection on the server, between 0 to 60,000 milliseconds		
Reading Timeout	set the maximum time that will be expected for receiving response from the server, between 0 to 60,000 milliseconds		
External Servers Tab > ONE System – State Integrator	Image: Sistema ONE - Integrador dos Estados Habilitar/Desabilitar Integração Image: Habilitado (padrão: Desabilitado) URL base Image: Imag		
Enable/Disable Integration	select whether integration with the ONE System will be Enabled or Disabled		
Base URL	enter the base URL that will be used to access the ONE System		
Number of attempts	set the maximum number of attempts to send a record to the server		
Connection time	set the maximum time that will be waited for a connection to be accepted on the server		
Response time	set the maximum time that will be waited for receiving a response from the server		
<i>Querying ONE</i> <i>System in real time</i>	select whether to Enable or Disable the consultation with the ONE System in real time		
Send all types	select whether to Enable or Disable the sending of all types of records		
Type of Environment	select whether the Environment Type is between Production or Homologation		
СПРЈ	insert the CNPJ		
Certificate Password	enter the Certificate Password		
Certificate	send the Certificate that will be used		



Field	Description		
<i>External Servers Tab > Integration with CarBigData API</i>	CarBigData API Integration Enable/Disable Integration Gateway URL Max. Number of Retries Max. Connection Timeout Max. Response Timeout Secret Key DcP5ZcHvLdeiWZ49pngnbDW0gYayvkCc		
Enable/Disable Integration	select whether integration with CarBigData API will be Enabled or Disabled		
API URL	enter the URL that will be used to access the CarBigData API		
Max. Number of Attempts	set the maximum number of attempts to send a record to the server		
Max. Connection Time	set the maximum time that will be expected for accepting a connection on the server		
Max. Response Time	set the maximum time that will be expected for receiving response from the server		
Security Key	enter server security key		
<i>External Servers Tab > Zarv API Integration</i>	Integração com API Zarv Habilita/Desabilita integração I Habilitado (padrão: Desabilitado) URL da API Image: https://api.zarv.com/v1/collector/signal (padrão: ") Máx. Número de Tentativas Image: https://api.zarv.com/v1/collector/signal (padrão: ") Máx. Tempo de Conexão Image: https://api.zarv.com/v1/collector/signal Image: msc (padrão: 10000 ms) Máx. Tempo de Resposta Image: msc (padrão: 10000 ms) Image: msc (padrão: 10000 ms) Chave de Segurança Image: msc (padrão: ") Image: msc (padrão: ")		
Enable/Disable Integration	select whether integration with Zarv API will be Enabled or Disabled		
API URL	enter the URL that will be used to access the Zarv API		
Max. Number of Attempts	set the maximum number of attempts to send a record to the server		
Max. Connection Time	set the maximum time that will be expected for accepting a connection on the server		
Max. Response Time	set the maximum time that will be expected for receiving response from the server		
Security Key	enter server security key		



Field	Description		
SOAP Tab	System configurations	?	
Enable SOAP	select whether the use of the SOAP interface in ITSCAMPRO will be Enabled or Disabled	d	
Enable Authentication	select whether to Enable or Disable soap WebService authentication in ITSCAMPRO		
SOAP Service Port	configure on which ITSCAMPRO port WebService SOAP will be enabled		
SOAP User	set username for SOAP authentication in ITSCAMPRO		
SOAP Password	set password for SOAP authentication in ITSCAMPRO		



Field	Description
	System configurations ? @ Cleneral @ DENATRAN ? @ External access Phables receiving date fromDENATRAN © Enabled (standard: 'Disabled') VMop Use FTPS © Denabled (standard: 'Disabled')
	Attinge storage FTP mode Image storage DMobile application FTP server IP/Hoat Image storage External servers FTP server communication port Image storage Image storage FTP server communication port Image storage Image storage FTP server login user Image storage FTP login user Image storage FTP login user Image storage FTP login password
	A CCR Renaram files directory Frequency O Monthly Day O Hour O Minute O RESTRICTIONS
DENATRAN tab	Restriction files directory Restriction files directory Frequency O Monthly Day O Hour O Minute O
	Send email Image: Disabled Generate alert Image: Disabled Exhibit Popup Image: Disabled Documentation Image: Disabled Send email Image: Disabled Generate alert Image: Disabled Generate alert Image: Disabled Exhibit Popup Image: Disabled Exhibit Popup Image: Disabled Exhibit Popup Image: Disabled
	Search and Seizure warrants Send email Generate alert Exhibit Popup REFERENCE DATA Type of data to import: Type of data to import:
	Note: before dragging or selecting a file, check the kind of data to be imported. C drag file with reference data here orselect one
Enables receipt of DENATRAN data	select whether to Enable or Disable the receipt of RENAVAM data by an FTP server
Use FTPS	select whether FTPS will be <i>Enabled</i> or <i>Disabled</i> . When enabled ITSCAMPRO will use FTPS instead of unsecured FTP
FTP Mode	select whether the FTP mode will be Active or Passive
IP/Host FTP Server	configure the IP address or HostName of the server to be sent
FTP Server Communication Port	enter the port that should be used in communication with the FTP server
FTP Login User	enter user to login to FTP server
FTP Login Password	enter password for FTP server login



Description		
RENAVAM		
Renavam files directory	Renavam files directory	
Frequency	 Monthly 	~
Day	0	~
Hour	0	~
Minute	0	~
enter the name that will be displayed in the <i>Renavam File Directory</i>		
select the periodicity between the Mon	thly, Daily and Hourly option.	S
select the day		
select the hour		
select the minute		
RESTRICTIONS		
Restriction files directory	Restriction files directory	
Frequency	 Monthly 	~
Day	0	~
Hour	0	~
Minute	0	~
enter the name that will be displayed in the <i>Restrictions file directory</i>		
select the periodicity between the Mon	thly, Daily and Hourly option.	5
select the day		
select the hour		
select the minute		
Theft and robbery		
Send email	C Enabled	Disabled
Generate alert	C Enabled	Disabled
Exhibit Popup	🖬 Enabled	Disabled
select whether to <i>Enable</i> or <i>Disable</i> emailing monitoring with <i>Theft and Robbery information</i>		
select whether to <i>Enable</i> or <i>Disable</i> the generation of monitoring alerts with <i>Theft and Robbery information</i>		
	RENAVAM Renavam files directory Frequency Day Hour Minute enter the name that will be displayed in select the periodicity between the Monit select the day select the hour select the minute RESTRICTIONS Restriction files directory Frequency Day Hour Minute enter the name that will be displayed in select the periodicity between the Monit select the name that will be displayed in select the day select the day select the day select the our select the day select the minute Theft and robbery Send email Generate alert Exhibit Popup select whether to Enable or Disable em information	Description RENAVAM Renavam files directory Renavam files directory Monthly Mouthly Mour Minute enter the name that will be displayed in the Renavam File Directory select the periodicity between the Monthly, Daily and Hourly option: select the hour select the minute RESTRICTIONS Restriction files directory Frequency Minute select the minute RESTRICTIONS Restriction files directory Frequency Minute O Hour Minute Restriction files directory Frequency Minute Restriction files directory Frequency Minute Image: Select the name that will be displayed in the Restrictions file directory select the day select the hour select the hour select the nour select the nour select the and robbery Send email Imabled



Field	De	escription			
Display popup	select whether to <i>Enable</i> or <i>Disable</i> the d <i>Robbery information</i>	isplay of the monitoring p	oopup with <i>Theft and</i>		
	Documentation				
	Send email	C Enabled	Disabled		
DENATRAN Tab > Documentation	Generate alert	C Enabled	Disabled		
	Exhibit Popup	✓ Enabled	Disabled		
Send Email	select whether to <i>Enable</i> or <i>Disable</i> the s <i>Documentation information</i>	ending by e-mail of the m	nonitoring with		
Generate alert	select whether the generation of monitor Enabled or Disabled	ing alert with Documenta	tion information will be		
Display popup	Enabled or Disabled select whether to Enable or Disable the display of monitoring popups with Documentation information Search and Seizure warrants				
	Search and Seizure warrants				
DENATRAN Tab >	Send email	Enabled	Disabled		
Search and Seizure	Generate alert	🗹 Enabled	Disabled		
0012010	Exhibit Popup	C Enabled	Disabled		
Send Email	select whether to <i>Enable</i> or <i>Disable</i> the e information	-mailing of monitoring wi	th Search and Seizure		
Generate alert	select whether the generation of monitor be <i>Enabled</i> or <i>Disabled</i>	ing alerts with Search and	d Seizure information will		
Display popup	select whether to <i>Enable</i> or <i>Disable</i> the d Seizure information	isplay of monitoring popu	ips with Search and		
	REFERENCE DATA				
	Type of data to import:	Documentation Send email Generate alert Exhibit Popup Cenabled Cenad Cenad Cenabled Cenabled Cenabled			
<i>DENATRAN Tab > REFERENCE DATA</i>	Note: before dragging or selecting a file, chece drag file with reference data here ors	k the kind of data to be imported.			
Type of data to import	information select whether the generation of monitoring alerts with Search and Seizure information to be Enabled or Disabled select whether to Enable or Disable the display of monitoring popups with Search and Seizure information REFERENCE DATA Type of data to import: Image: Note: before dragging or selecting a file, check the kind of data to be imported. Image: Image: Colors, Vehicle Types or Vehicle Types				



Field		Description	
OCR Tab	System configurations	Description tem configurations ************************************	
Number of OCR Processes	select Number of OCR Processes,	from 0 to 40	
OCR Queue Size	select OCR Queue Size, from 0 to	> 500	
Vehicle Type	select Vehicle Type from the Othe	er, Motorcycle or Motorcycle/Other options	
OCR Mode	select OCR Mode from the Disable	led, Fast, Normal, Slow, or Very Slow options	
OCR Timeout	select OCR Timeout, from 0 to 40	000	
Country	select the country from the option Uruguay, European Union, France	ns: Argentina, Brazil/Mercosur, Chile, Mexico, Par e, or Netherlands	aguay,
Number of Tracks	select Number of Tracks, from 1	to 8	
Minimum Character Width	select Minimum Character Width,	from 1 to 100	
Average Character Width	select Average Character Width, f	from 1 to 100	
Maximum Character Width	select Maximum Character Width,	, from 1 to 100	
Minimum Character Height	select Minimum Character Height	; from 1 to 100	
Average Character Height	select Average Character Height,	from 1 to 100	
Maximum Character Height	select Maximum Character Height	<i>t</i> , from 1 to 100	



Field	Description
<i>Mean Angle of Plate</i> <i>Rotation</i>	select Average Rotation Angle of Plate, from -90 to 90
Average Character Slope	select Average Character Slope, from -90 to 90
Max. Low Probability Characters	select Max. Low Probability Characters, from 0 to 10
Minimum Character Probability	select Minimum Character Probability, from 0 to 100
Low Probability Character	enter Low Probability Character

Field			Description	
Third Party Cameras Tab Configurações do Sistema FTP Server select whether the Third-Party Camera FTP server will be Enabled or Dis Port enter the port that should be used in communication with the FTP server Protocol select the FTP protocol that will be used Mode Select server mode	؟ (۱۹۵۵: ۱۹۹۹) (۱۹۵۵: ۱۹۹۹) (۱۹۹۲: ۱۹۹۲)			
FTP Server	select whether the Third-Party Camera FTP server will be Enabled or Disabled			
Port	enter the port that should be used in communication with the FTP server of Third-Party Cameras			
Protocol	select the FTP prote	ocol that will be	used	
Mode	Select server mode			

Date/Time Settings

The correct functioning of ITSCAMPRO requires that the date and time setting be checked, as the statistical information produced considers the system date and time setting.



Date / Time co	nfigurations ?
	Time zone Brasilia Time (America/Sao_Paulo) Date / Time Server 20/12/2022 16:17 C Synchronism Date/Time O Date / Time Manual configuration Synchronism type Image: NTP (Proprietary server) NTP server Image: 200.160.0.8
Field	Description
Timezone	set time zone The ITSCAMPRO Time Zone setting allows you to ensure that date/time conversions are performed correctly
<i>Synchronism Date/Time</i>	C Synchronism Date/Time O Date / Time Manual configuration Synchronism type C NTP (Proprietary server) NTP server Image: 200.160.0.8
Type Synchronism	select the type of synchronism that will be used. For ITSCAMPRO we can use NTP with the default OS server or use NTP with a proprietary server
NTP Server	enter NTP server configuration port, if selected to use a proprietary NTP server
Manual Setup Date/Time	O Date / Time Manual configuration Date Date Manual configuration Date Manual configuration
Date	select through the calendar the correct date or configure the Server Date by typing through the keyboard
Hour	enter the correct time so that the server clock is synchronized with servers

Network Configurations

In this section you can change ITSCAMPRO server network settings. After saving the settings, the server restarts and the page reloads after 40 seconds.



Field	Description
Use DHCP Tab	Press ? Press ? Press ? DHCP (Dynamic Host Configuration Protocol) Select this option to determine the use of dynamic host configuration. In this case, IP addresses, subnet mask and gateway will be automatically assigned to the server
Primary DNS	enter Primary DNS
Field Description Use DHCP Tab Image: Description in the second guarations in the intercent of the second guaration in the second guaration in this case, IP addresses, subnet mask and gateway will be automatically assigned to the server Primary DNS enter Primary DNS enter Alternate DNS enter Alternate DNS Use Static IP Tab Image: Description in the intercent of the server intercent of	
Use Static IP Tab	Retwork configurations ? Image: Place Off Ima
IP address	enter Address
Subnet Mask	enter Subnet Mask
Gateway	enter Gateway
Primary DNS	enter Primary DNS
Alternate DNS	enter Alternate DNS

The DNS fields assign addresses to domain name servers. The value(s) can be exchanged if using another server(s) and if the system is operating without internet access it is possible to leave the fields blank.

E-mail Server

One of the functionalities of ITSCAMPRO is the sending of e-mail with alerts to registered users. This requires configuring the SMTP Server and ITSCAMPRO Email User and which users should receive the alerts. These settings are available in the *Mail Server* menu.



?

Email server

⊲ SMTP server and Er	nail user		
ILS	Enabled Disabled		
SMTP server	dh mail.hexon.com.br		
SMTP port	587		
Jser to login	☑ alerta@hexon.com.br		
Password	A		
Origin Address	🖂 alerta@hexon.com.br		
Alert email configuration	ation		
Administrator E-mail	🖂 joelcio@pumatronix.com.br 🛛 🖪 Seed		
Send Monitored vehicles	Enabled		
Subject Monitored	D [ITSCAMPRO] VEÍCULO MONITORADO		
Send server Status	Enabled		
Subject Server	[ITSCAMPRO] SERVIDOR		
Send Camera Status	Enabled Disabled		

Field	Description
TLS	select whether TLS will be Enabled or Disabled
SMTP Server	configure SMTP server address for sending emails by ITSCAMPRO
SMTP Port	enter SMTP server configuration port
Login User	enter user to login to server
Password	enter password for server login
Source Address	configure email address that should be displayed as the source of the email
Admin Email configure list of emails that should receive administrative messages	
Send Monitored Vehicles	select whether to Enable or Disable the sending of monitored vehicle emails
Monitored Subject	enter subject that will be sent in the monitored vehicle alert email
Send Server Status	select whether to Enable or Disable sending server status emails
Server Subject	enter subject that will be sent in the server status alert email
Send Camera Status	select whether to Enable or Disable the sending of status emails from capture devices
Camera Subject enter subject that will be sent in the capture device status alert email	
Dangerous Cargo Subject	enter subject that will be sent in the capture device status alert email

License

Display of the information about the license in use and the *Change System License* option if there is a need to include some integration.



License

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Current license information Library version 2.0.7 Hardware ID 4c4c4544-005a-5110-8052-b5c04f564e32 Customer ITSCAMPRO - SUPORTE Software Licensed Yes Number of cameras 100 Traffic module Enabled Monitoring Module Enabled Support to multiple languages Enabled Support to ITSCAMPRO application Enabled Supports Search by image similarity Enabled Number of cameras able to calculate descriptors 100 Support to integration with PM-PR Enabled Support to integration with Denatran Enabled Integration with the SPIA PRF / Alerta Brasil 3.0 Enabled OCR support in the server Enabled Number of cameras with OCR 100 Support for Searches by Vehicle Classification Enabl CLASSIFIER algorithm support on the server Enabled Number of cameras allowed to run CLASSIFIER 100 Alter system license by dragging file here orsearching for. The license file "license.lic" was uploaded by user "Undefined" at 15/09/2022

System Maintenance

On this page it is possible to do the main operations with the server where ITSCAMPRO is installed, since it is not always possible to physically access the equipment.



		?
Software update	ĵn≹ System Logs	
Evice Service 1.112+45fs9edee Web 1.112+45fs9edee 1.12+45fs9edee 1.112+45fs9edee 1.112+45fs9ed	E Service E Backup/Restore of database ▲ Backup	≜ Log ≜ Restore
Maintenance system	Reset Factory default	
ଦ୍ଦି Switch to System in Maintenance	A Reset Facto	ry default
Reinitialize server		
C Reinitialize		

System Restore: When restoring a database in ITSCAMPRO, all information that was stored on the equipment (including internal references to the images) will be overwritten.



Factory Restore: When you restore an ITSCAMPRO installation to the factory version, all information that was stored (including images) will be erased.

ITSCAMPRO Restart: Requesting a restart of **ITSCAMPRO** causes all connections to the image capture devices to be interrupted during the process and there may be a loss in vehicle recognition during this period.

Field	Description	
Software Upgrade	for updating a software package when a new version is made available. ITSCAMPRO has four software packages, and you can update them individually. The process is fully done in the background after sending the update file.	
the background after sending the update file. System Logs when assistance is required, information about the actions taken on the syster downloaded to be sent to Pumatronix Technical Support. ITSCAMPRO has a c of all operations done by the system in the background. This log file has the of assisting the development team in the analysis of ITSCAMPRO anomalies		
Database Backup/Restore	<i>Backup:</i> downloads a backup of the complete system database. This backup is saved i proprietary format and can only be used by ITSCAMPRO <i>Restore:</i> imports a backup file with predefined settings	
System in Maintenance	for updating a software package, it is recommended to <i>put System in Maintenance</i> so that all accesses and changes to the system are blocked	
Restart Server	use this option when the system is not operating normally	
Factory Reset	settings are reset to factory default, but all data will be erased from the memory	



3. Registrations Menu

Groupings

The records stored in the database can be more easily located when added to the *Groupings*, which consists of a common identifier that can be added to the description of the record, making it easier to search, especially when using the COMPARE function.

Images associated with a grouping are not removed by the automatic disk space management process.

Group	ping	1
Q	10 v Received total of 1 grouping. Display (1 to 1)	+ New grouping
Caminhao Tanu Af wr 30 Mr 10 2011 12 Alf	que G	Ø ¥
CarretaAberta	AF 000 50 M MA 000 51 AF 000 50 AF 000 50 AF 000 50 M MA 000 51 AF 000 50 AF 000 50 AF 000 50 M MA 000 51 AF 000 50 AF 000 50 AF 000 50 MA 000 5200 51 21 45.30 MA 000 5200 51 21 45.30 MA 000 5200 51 244.20 MA 000 5200 51 21 51 51 MA 000 50 50 51 21 51 50 MA 000 5200 51 244.20	Ø ×
. «	1	>

To add a new grouping, click *+New Grouping* and the screen displays the field to insert a new vehicle identifier:



Is it possible characterize a record in a grouping when you access Record Information and the add option, which opens the field to create a grouping description:



Equipment

A piece of equipment can be *Fixed (Pole), Static (Tripod), Mobile (Vehicles), Toll Station or Mobile.* It may contain a ALU (Arithmetic-Logic Unit) containing software that commands the devices of each lane or a group of devices that have the same geographical location.

Equipmen	t									
۹	10 v Received total of 12 Equipments. Present	ing (1 up to 10)						+ New e	quipr	me
Name	Comment	State	City	Neighborhood	CEP	Туре	Status		Acti	оп
CFI 001/2F	Av. Rui Barbosa - ATACADÃO - (Sentido BR-277)	PR	São José dos Pinhais-PR	Águas Belas	83040-550	Fixed	ок	(ð	>
2FI 002/2F	Av. Rui Barbosa - ATACADÃO - (Sentido Centro SJP)	PR	São José dos Pinhais-PR	Águas Belas	83005-340	Fixed	ок	(Ø	,
CFI 003/2F	Av. Rui Barbosa X Rua Colombo - (sentido Afonso Pena)	PR	São José dos Pinhais-PR	Centro	83005-340	Fixed	ок	(Ľ	,
FI 004/4F	Av. das Torres (em frente a DAJU)	PR	São José dos Pinhais	São Cristovão	83040-300	Fixed	ок	C	Ø	3
CFI 005/2F	Av. Rui Barbosa X Rua Colombo - (sentido Centro)	PR	São José dos Pinhais-PR			Fixed	ок	(Ľ	3
Jiga-Firmware						Mobile	Cameras Disabled	C	ð	3
10BILE - Eduardo (DEMUTRAN)		PR	São José dos Pinhais			Smartphone	Virtual	(Ø	3
//OBILE - Joelcio Pranger						Smartphone	Virtual	(3

When clicking on *+New Equipment*, the fields for registration are available:



Field	Description					
	New equipment					
		Name Name				
		Comment	Comment S			
		Туре	Ø₿ Fixed (Pole)		~	
	1	Equipment Code	Sequipment Code			
	2	City	• City	State	9 STATE	
		Neighborhood	Neighborhood			
		Street	A Street			
		Number	A Number	CEP	A CEP	
		Latitude	O Latitude			
	:0	Longitude	Congitude			
			V.			
Name	enter e	equipment na	me in the system	(required fie	eld)	
Comment	enter additional equipment information					
Туре	select the type of equipment that can be <i>Fixed (Pole), Static (Tripod), Mobile (Vehicles), Toll Station or Mobile (mandatory field)</i>					
Equipment Code	enter equipment identification code for FTP					
Address (City/State/Neighborhood/Street/Number/Zip Code)	enter information of the address where the equipment is installed, usually of the fixed type					
Latitude	enter latitude where the equipment is installed					
Longitude	enter longitude where the equipment is installed					

Cameras

Equipment that is connected as customers in ITSCAMPRO can be mobile, fixed, or static, but the final identification of the equipment is done through the capture device. Each capture device may contain different settings depending on the type of equipment to which it is linked in the register. In this screen it is possible to maintain the registrations of the capture devices and view in a simplified way the state of communication of ITSCAMPRO with the capture device.



o Cameras											?
Q	10 V Receive	ed total of 18 Cam	eras. Presentir	ng (1 up to 10)					+	New car	nera
Equipment	Name	Serial number	Direction	IP	Request images with recognized license plates	Request unrecognized images	Forward recs.	Туре	Updated	Actio	ons
CFI 001/2F Av. Rul Barbosa - ATACADÃO - (Sentido BR- 277)	Faixa Direita - 8050	F8D46200B056	Dianteira	189.11.20.192	Sim	Não	Sim	Pumatronix	00:00:09	đ	×
CFI 001/2F Av. Rui Barbosa - ATACADÃO - (Sentido BR- 277)	Faixa Esquerda - 8060	F8D46200B047	Dianteira	189.11.20.192	Sim	Não	Sim	Pumatronix	00:00:49	Ø	×
CFI 002/2F Av. Rui Barbosa - ATACADÃO - (Sentido Centro SJP)	Faixa Direita - 8070	F8D46200B04A	Dianteira	189.11.20.192	Sim	Não	Sim	Pumatronix	00:00:12	đ	×
CFI 002/2F Av. Rul Barbosa - ATACADÃO - (Sentido Centro SJP)	Faixa Esquerda - 8080	F8D462009B81	Traseira	189.11.20.192	Sim	Não	Sim	Pumatronix	00:00:09	ß	×
CFI 003/2F Av. Rui Barbosa X Rua Colombo - (sentido Afonso Pena)	Faixa Esquerda	F8D4620012A6	Traseira	45.225.162.138	Sim	Não	Sim	Pumatronix	00:00:32	Ø	×
CFI 003/2F Av. Rui Barbosa X Rua Colombo - (sentido Afonso Pena)	Faixa Direita	F8D46200129E	Traseira	45.225.162.138	Sim	Não	Sim	Pumatronix	00:00:16	đ	×
CFI 004/4F Av. das Torres (em frente a DAJU)	Faixa 1	F8D4620013C7	Traseira	179.107.23.82	Sim	Não	Sim	Pumatronix	00:00:33	Ø	×
CFI 004/4F Av. das Torres (em frente a DAJU)	Faixa 3	F8D46200129D	Traseira	179.107.23.82	Sim	Não	Sim	Pumatronix	00:00:49	Ø	×

To add a new capture device, click +New Camera and the screen displays the fields for configuration:

Field	Description						
General Tab	Ceneral Features Active Active Active Inactive Name Vame Vame Serial number Type Pumatronix Direction Inactive Equipment Cf1001/2f (Av. Rui Barbosa - ATAC) ID External of the camera						
Active	select <i>Active</i> to enable operation of the image capture device in the ITSCAMPRO system or <i>Inactive</i> to disable						
Name	enter name of the capture device in the system						
Serial Number	enter serial number for identification of the capture device in the system						



Field	Description				
Туре	 define the characteristics of how the capture device is installed. This installation can be of the following types: Pumatronix, which is the standard type of capture device and sends images and metadata of license plate readings; Panoramic, which is a device that does not have license plate reading functionality and periodically sends context images of an installation; Virtual, which is used for cell phones that are used with the ITSCAMPRO APP and that read license plates and send them to the server. 				
Direction	set the direction of the road monitored by the capture device by selecting whether the images captured from the vehicle are from the <i>Front, Rear</i> or <i>No Direction Set</i>				
Equipment	select to which equipment the device is linked, among those registered				
Camera External ID	enter identification of the capture device for crossing with data from other systems				
Recognized Image Req.	select <i>Active</i> or <i>Inactive</i> for image requisition on which plates have been recognized				
Unrecognized Image Req.	select <i>Active</i> or <i>Inactive</i> for image requisition on which plates have been recognized				
Features Tab	Image: New camera General Features Image: External Servers Forward records Image:				
OCR on Server - OCR on Server	select Active or Inactive for OCR on the server				
CLASSIFIER on Server - CLASSIFIER on Server	select Active or Inactive for CLASSIFIER on the server				



Field	Description					
CLASSIFIER on Server - CLASSIFIER Scene	select scene from CLASSIFIER in Closed Image or Panoramic Image					
COMPARE - Calculate descriptors	select <i>Active</i> or <i>Inactive</i> for the calculation of the descriptors of the images, a requirement for the use of the <i>COMPARE</i> Similarity Search functionality					
COMPARE - Region of Interest	select <i>Active</i> or <i>Inactive</i> to define a region of interest for image analysis in <i>Similarity Search</i> , which considers the plate position					
Stripe camera	select Active or Inactive to insert a stripe in the captures					
Integrations Tab	Image: Nova Câmera Image: Puncionalidades Image: Puncionalidades					
ITSCAMPRO - Send records	select Yes or No to send logs to an ITSCAMPRO server					
Lince - Send records	select Yes or No to send logs to a Lince server					
WebService Rest - Send records	select Yes or No to send logs to a WebService Rest					



Field	Description
Detecta-SP - Send records	select Yes or No to send records to a server with Detecta-SP integration
Sistema ONE - Send records	select Yes or No to send records to a server with ONE System integration
SEFAZ-AL - Send records	select Yes or No to send records to a server with SEFAZ-AL integration
PM-MG - Send records	select Yes or No to send records to a server with PM-MG integration (Helios)
SPIA - Send records	select Yes or No to send logs to a server with SPIA integration
Zarv - Send records	select Yes or No to send logs to a server with Zarv integration



Monitored Vehicles

The ITSCAMPRO system supports integrations with vehicle safety and monitoring systems. When registering on *Monitored Vehicles*, the vehicle's license plate must be specified, and a description can be included. This registration can be performed by vehicle plates, individually, or a *CSV* file containing all the listed plates can be inserted in the system, by clicking on the *Import* button. When there is the identification of a vehicle license plate registered for monitoring, the system can generate visual and audible alerts and issue an email with the identification data. Visual identification alerts cannot be disabled, while audible alerts can be configured. For the functionality of sending email with alerts to work correctly, a valid SMTP



server (mail sending server) must be configured in ITSCAMPRO. This configuration is done through the *"System > Email Server"* option.

🕗 Moni	tored vehicles										?
	Database	DO v	Registration		Description		Sound alert	Responsible	onsibles	~	
	License Plate		Expires		E-mail	~	Type	Group		~	
		🎢 Clean	► Filte	r Q Sea	rch + New monito	red vehicle	i Remove €	🕹 Impor	t		
25 V Received tot	tal of 1 monitored vehicles. Pres	enting (1 up to 1	1)								
Database	License Plate	Regi	stration	Expires	Description	E-mail	Sound	alert	Туре	Responsible	Actions
MONITORADO	MLB3112	07/10/2022		It does not expire	VEICULO USADO NO ARROMBAMENTO DE VEICULO NO SO PEIXE	Send to address	s No		Public	Root	X
« <					1						> >>

Filter	Description
Database	search by database among the options: <i>MONITORED, SPIA</i> or <i>All databases</i>
Registration	search by registration date
Description	search by description or part of a description
Audible Alert	sound alert search
Responsible	search by person responsible for registering the vehicle in the system
License Plate	search by plate
Expiration	search by expiration date
E-mail	search by status of sending by emails
Туре	search by <i>Public</i> or <i>Private</i>
Group	search by group to which the tracked vehicle record belongs

To register a vehicle for monitoring, click +New Monitored Vehicle and the screen shows the fields to fill in:



Field	Description						
	New monitored vehicle						
	License Plate						
	Group 👹 GERAL 🗸						
	database						
	Description						
	0						
	Sand amail Sand to the group						
	Sound alert						
	Pop-Up						
	Expires Mo V						
	✓						
License Plate	enter monitored vehicle plate data						
Group	select the registered group that will have access to monitoring						
Base Data	create an identification of a database to which the monitoring belongs						
Description	enter monitoring description						
Send Email	configure whether to send the vehicle detection alert monitored by e- mail, selected from the options: Do not send, Send to Group, Send to Addresses or Send to Group and Addresses						
Туре	select the type of vehicle registration if <i>Public</i> or <i>Private</i>						
Audible Alert	configure whether to issue the audible alert at the time of detection of the monitored vehicle						
Pop-Up	select whether to display the pop-up window when detecting the monitored vehicle						
Expiration	select if the monitoring should expire						
Expires at	select through the calendar the date on which the monitoring should expire						

If the user already has a list or database with vehicles that must be monitored, they can import this list in a simple and automated way into the system. Click *Import* and the screen displays the fields to fill in:



Field	Description					
	1 Import monitoring file					
	Group GERAL ~ Database Database Expires Mo ~					
	OITSCAMPROsupports sending files on CSV format with five columns per line: 1. license plate; 2. Description; 3. Send email to group (0 or 1); 4. Play alert sound (0 or 1); 5. show POPUP on Web (0 or 1) Ex: ABC1234,Stolen vehicles,11,0 Image: To send a monitored vehicles file drag file here or search for a. ITSCAMPRO can import CSV type files. The format of the lines must be PLATE, Description, SendEmail, Alarm, Popup. SendEmail, Alarm and Popup fields are optional and if they are not in the file rows a default					
Group	select the group with permission to access the list of monitored vehicles					
Base Data	create a database ID for the watchlist					
Expiration	select if the monitoring should expire					
Expires at	select through the calendar the date on which the monitoring should expire					

Monitored Sections

When using more than one equipment in a facility, ITSCAMPRO makes it possible to register the information of the route traveled by a vehicle, when defining the initial equipment and the final equipment for vehicle detection. With the information of the estimated Average, Maximum and Minimum times, and the *Distance* to travel the stretch, the speeds to travel the route are estimated.

The *Monitored Section* is used as a basis for generating the *Time and Speed* report in the *Reports* menu. In the *Similarity Search*, the search is optimized by presenting the data of the record made in the *Equipment* of a stretch and the *Date/Time* referring to the captures made.



Monitored roads ?								
Received total of 2 monitored roads. Presenting (1 up to 2)								
Name of road	Initial Equipment	Final Equipment	Distance	Average time	Maximum time	Minimum time	Acti	ions
CFI 002 > CFI 005	CFI 002/2F Av. Rui Barbosa - ATACADÃO - (Sentido Centro SJP)	CFI 005/2F Av. Rui Barbosa X Rua Colombo - (sentido Centro)	1031 m	114 seconds (1 minute)	180 seconds (3 minutes)	60 seconds	ľ	×
CFI 003 > CFI 001	CFI 003/2F Av. Rui Barbosa X Rua Colombo - (sentido Afonso Pena)	CFI 001/2F Av. Rui Barbosa - ATACADÃO - (Sentido BR-277)	1049 m	114 seconds (1 minute)	180 seconds (3 minutes)	60 seconds	ß	×
« <		1						> >

To add a new monitored section, click +New Monitored Section and the screen displays the fields to fill in:

Field	Description					
	New monitored road					
	Name Name of road					
	Initial Equipment 🛛 CFI 001/2F (Av. Rui Barbosa - ATACADÃO - (Sentido BR-27) 🗸					
		Final Equipment	CFI 001/2F (Av. Rui Barbos	sa - ATACADÃO - (Sentido BR-27 🗸 🗸		
		Distance (m)	⊮ [#] Distance			
		Average time	 Average time 	Seconds 🗸		
		Maximum time	 Maximum time 			
		Minimum time	 Minimum time 			
		Average speed				
		Minimum speed				
		Maximum speed				
			¥			
Name	enter r	name that will	be associated with t	he monitored section		
Initial Equipment	select	equipment tha	t represents the star	ting point of the section		
Final Equipment	select	equipment tha	t represents the end	point of the section		
Distance	insert distance between the two points. If the system has an internet connection, the distance is calculated automatically					
Average time	enter average time to go through the section. If the system has an internet connection, the average time is calculated automatically					
Maximum time	enter maximum time to go through the section					
Minimum time	enter r	minimum time	to go through the se	ection		

Dangerous Cargo

Dangerous Cargo or CargoID is a feature that can be enabled in ITSCAMPRO and it will detect UN code plates in images received from capture points.

With this, the user can receive alerts, perform searches, and generate reports on dangerous cargo circulating through capture points that are sending images to the ITSCAMPRO server.



This feature requires an additional license and a hardkey to run in ITSCAMPRO.

Carga Perigosa ?							
Q	10 v Recebido o to	tal de 1 cargas perigosas monitoradas. Apresentando (1 até 1)		+ Novo Monitorament			
Código	Nome	Alerta por Notificação	Alerta por Email				
331203	Gás Inflamável	Sim	Enviar para o Endereço	Ø 🗙			
		1		、 、			

To add a new dangerous cargo category, click +New Monitoring and the screen displays the fields to fill in:

Field	Description					
	Novo Monitoramento ×					
	Código					
	Nome					
	Enviar notificação Vincensis Vincens					
	Enviar email 🖂 Enviar para o Endereços 🗸 🗸					
	Endereço(s) Separados por virgulas					
	~					
Code	enter code for dangerous cargo identification in ITSCAMPRO					
Name	enter name of dangerous cargo to be monitored					
Send Notification	select whether to be notified when dangerous cargo is detected in the monitoring, between the Yes and No options					
Send Email	configure whether to send the dangerous cargo detection alert by e- mail, selecting the options: Do not send, Send to Group, Send to Addresses or Send to Group and Addresses					
Address(es) Separated by commas	enter the email addresses that will receive the dangerous cargo detection alert					

Notifications

Notifications are messages generated by the system to communicate users about certain events, such as the registration of a new monitoring, an approved monitoring, a new registered approach. Users can also generate notifications for other users.



\mathcal{O}	Notification	S				?
Q		10 V No notification to present				+ New notification
	Date	Hour	Туре	Title	Notification	Actions
			Ν	lo notifications		
« <						> >>

To add a new notification, click +New Notification and the screen displays the fields to fill in:

Field	Description				
	R New notification ×				
	Type 📃 Grupo 🗸				
	Type Varning V				
	Title				
	Notification				
	Available groups Selected groups				
	Tomercial				
	eral Geral				
	Select All >				
	~				
Туре	select if the notification will be for a Group or User				
Туре	select the type of notification by filtering by <i>Warning</i> , <i>Error</i> or <i>Information</i>				
Title	insert the title of the notification				
Notification	enter the content that will be notified				
Available Groups	select which groups or users will receive the notification and drag to the Selected <i>Groups column</i>				
Groups Selected	view/remove groups or users registered in the system that are already associated with the new notification				

Devices

In Devices, you can register a mobile device to access information through the ITSCAMPRO application distributed free of charge in the Google® Play store.



To register a new device, follow these steps:

- 1) Install the APP via Google Play;
- 2) Access ITSCAMPRO through the external address;

Devices						?
Q 10 V Receive	d total of 3 devices. Presenting (1 u	ip to 3)				+ New device
Name	Туре	Brand	Model	Version	Associated camera	Actions
Eduardo Umbria - DEMUTRAN	Smartphone	samsung	SM-A115M	10	GJWPAEZ399YR	ی × د
Joeksio Pranger - PUMATRONIX	Smartphone	samsung	SM-A115M	11	CZNFSSX4LRKZ	ی × ۲
Marcoa Boeira - PUMATRONIX	Smartphone	samsung	SM-A105M	11	4HJAXUREFI6S	ی × د
« <			1			> >>

3) Create a new device by clicking on +New Device, the screen displays the field for filling in the device name:

New device					
Name	💊 Name				
	¥				

4) Click on the button to register Device in ITSCAMPRO;

🛛 Re	cord of the device ×
Name	🔖 teste
u Use QR Co	de below to register the device called [teste]
¥.	
ĸ	

5) Open the ITSCAMPRO APP on the mobile device and access the Registration option;



- 6) Read the QR Code on the ITSCAMPRO screen;
- 7) The application will receive all the settings and restart;
- 8) The ITSCAMPRO platform will close the Device Registration window and show the mobile device data in the device list;

4. Reports Menu

The data recorded by the ITSCAMPRO System can be retrieved in report and graph format by accessing the options in the Reports menu. When accessing each report, the data from the last search performed is displayed.

Vehicle Monitoring

The *Vehicle Monitoring Report* is an important tool to assist the user in searching for captures of monitored vehicles. Every time a vehicle registered with monitoring is detected by any system capture device a log is generated. ITSCAMPRO allows the export of results in *CSV* or *PDF format*.

9	Monitoring Ve	hicle Repor	t								?
	Equipment All		Grouping	▲ Filter	Initial date 20/12/20 0 00:00 Final date 20/12/20 0 23:59 Q Search	22 © 22 © Export CSV	License Plate	Description	monitoring des	•	
10 ~ ID	no monitoring to present Date/Time	Equipment	Camera	License Plate	Database	Us	er Description	Brand/Model	Color	Grouping	Photo
« <				Flate	No monitorings availa	able					> »

Filter	Description				
Equipment	search by registered equipment				
Groupings	search by registered groupings				
Start Date	search by monitoring start date				
End Date	search by monitoring end date				
License Plate	search by plate				
Database	search by registered database				
Group	search by registered group				
Description	search by description/section description				
User	search by registered user				



Correlations

The *Correlations Report* is a tool for checking vehicle behavior patterns. For example, it is possible to make a search by correlating the captures of two or more equipment at a given time or the same equipment at different times. The result of this correlation will present all vehicle captures that were taken at the points and at the indicated interval.

Correlation	s Report						1
∑ No interval between captures	X With interval between captures						
							+ New
	Equipment		Date	Average time		Tolerance	
CFI 001/2F (Av. Rui Barbosa - Al	TACADÃO - (Sentido BR-277))		20/12/2022	16:29	⊙ 60	⊙ Minutes ∨	
CFI 001/2F (Av. Rui Barbosa - A	TACADÃO - (Sentido BR-277))		20/12/2022	16:29	◎ ④ 60	 Minutes 	
License Plate		Equipment		Date/Tim	ne	Photo	
License Plate		Equipment		Date/Tim	ne	Photo	
				20/12/2022 15:29:15			
CFI 001/2F Av. Rui Barbosa - ATACADÃO - (Sentido Bi		BR-277)		20/12/2022 15:29:24			
				20/12/2022 15:29:30			
	Filter			Description			
. ,							

Equipment	select equipment used in the correlation
Date	select the date used as reference for the correlation
Hour	select the time used as reference for the correlation
Tolerance	select the time tolerance used in the correlation

It is also possible, using the interval between captures as a filter, to search by vehicles that have passed all selected equipment within a given time range.

Correlations Report				?	
∑ No interval between captures Xith interval betw	veen captures				
Equipment Initial: Select an equipment Final: Select an equipment *	Initial date and time Date 20/12/2022 Hour © 16:29 Q Search for	o r correlations	Final date and time Date 20/12/2022 Hour O 16:29 Create graph	Maximum interval between captures Interval 20 Minutes	
Filter			Descriptio	on	
Equipment		select the <i>Initial</i> and <i>Final</i> equipment responsible for capturing the vehicle image			
Start Date and Time		select search	start date and time		



Filter	Description
End Date and Time	select search end date and time
Maximum interval between captures	select maximum time interval between captures made by the selected equipment

Data can be exported in .xls with or without images. Click *Create Graph* to instantly generate a graph with Total captures per equipment in the period:



Captures

The *Capture Report* is a tool that allows the user to search the ITSCAMPRO system database through filters in the interface and present the result of this search to the user. ITSCAMPRO allows you to transform the search results into a *PDF* report and export them into a comma-separated values (*CSV*) file. However, in the *CSV* file, the images of the records are not exported.

Equipment		Initial Date/Time	License Plate	Number of capture	Country		
All	¥	20/12/2022	Search for license plate	•		¥	
Cameras		00 ~ 00 ~ 00 ~ /	License plates	Evasion	Vehicle Class		
All	¥	Final Date/Time	🖨 Recognized 🗸 🗸	💿 Evaders and not evaders $$		*	
Grouping		m 20/12/2022	Vehicle type	Forwarding			
	¥	23 × 59 × 59 × 2	All vehicles 🗸 🗸	🖬 Any 🗸 🗸			
		Teday	License plate type				
		Today	🖨 All types of plates 🗸 🗸				
ID Received total of 33.352 of Date/Time	aptures. Presenting (1 up to 1 Equipm	0) nent Ca	amera License P	late Forwarded	Grouping	Photo	Search fo similarit
						_	
7.589.868 20/12/2022 16:30:53	CFI 005/2F Av. Rui Barbosa X Rua Colomb	o - (sentido Centro) ITSCAM60	10 HER1519	Yes			Q
7.589.868 20/12/2022 16:30:53 7.589.866 20/12/2022 16:30:52	CFI 005/2F Av. Rul Barbosa X Rua Colomb CFI 005/2F Av. Rul Barbosa X Rua Colomb	11 ITSCAM60 10 - (sentido Centro) ITSCAM60 11 ITSCAM60	0 HER1519 10 MEM1A01	Yes			م
7.589.868 20/12/2022 16:30:53 7.589.866 20/12/2022 16:30:52 F	CFI 005/2F Av. Rid Barbosa X Rua Colomb CFI 005/2F Av. Rid Barbosa X Rua Colomb	o - (sentido Centro) ITSCAM60 to - (sentido Centro) ITSCAM60	00 HER1519 00 MEM1A01	Yes Yes Descrip	ption		۹



Filter	Description
Groupings	search by registered groupings
Start Date/Time	search by start date and/or time of capture
End Date/Time	search by date and/or end time of capture
License Plate	search by the characters of the plate (it is possible to use the character '*' as a wildcard)
License Plates	search by plate status by filtering by <i>Recognized</i> or <i>Unrecognized</i> or <i>All</i>
Vehicle Type	search by vehicle type filtering by All Vehicles or Motorcycles or Others
Plate Type	search by plate type filtering by <i>Light Background</i> or <i>Color Background</i> or <i>All Plate Types</i>
Capture Number	search by capture number
Evasion	search by records that have been marked as possible toll evasions by filtering by Only Evaders, Only Non-Evaders or Evaders and Non- Evaders
Forwarding	searches for the status of forwarding records to another ITSCAMPRO server by filtering by <i>Forwarded, Un Forwarded and Any</i>
Country	search by country
Vehicle Class	search by the one that allows filtering by: <i>All, Unidentified, Bus, Car, Motorcycle or Truck</i>

Similarity Search

Similarity Search is a tool available in ITSCAMPRO that allows the search by images like vehicles registered and stored in ITSCAMPRO and in a database.

This functionality is released in the *COMPARE* module, which requires the upload and installation of the license in the ITSCAMPRO software, adaptation or installation of the image capture devices and the activation of the module, connecting the Hardkey to the processor, which limits the number of devices that can be configured.

The images generated in the *capture report* can be used as a search basis, performing the search of the report and in the *Similarity* field, click on the magnifying glass that contains the *Search by images similar to this function:*



Registers Report							?		
10 ~	Received total of 33 352 can	✗ Clean	✓ Filter	Q Search	Export CSV	送 Export PDF			
	received total of 55.552 cap	tures. Tresenting (Tup to To)							
ID	Date/Time	Equipment	Camera	Licer	nse Plate	Forwarded	Grouping	Photo	Search for similarity

External images can also be used via the *Reports > Similarity Search* menu by dragging or selecting the image:

Crag an base image here orsearch for one						
Equipment	Initial Date/Time	Final Date/Time	License plates	Vehicle type		
All *	20/12/2022	20/12/2022	🖨 Recognized 🗸	🖨 All vehicles 🗸 🗸		
Cameras	00 v 00 v 00 v 🖉	23 v 59 v 59 v Z	-	License plate type		
All 👻		Today		All types of plates		
Grouping				Evasion		
v				Evaders and not evaders		
🎢 Clean	▲ Filter Q Search	🗙 Cancel 🛛 🖾 Ex	sport PDF 😽 😂	dvanced options		

In situations where the additional monitoring point has a different framing from the base image, it is possible to delimit a *Region of Interest* by clicking on the image and dragging until the desired region is defined, as shown in the example below. This function reduces the search by similar descriptors only in the portion delimited on the image that will be used as a base, optimizing the performance of COMPARE:





Filter	Description
Start Date/Time	search by start date and/or time of capture
End Date/Time	search by date and/or end time of capture
License Plates	search by plate status by filtering by <i>Recognized</i> or <i>Unrecognized</i> or <i>All</i>
Vehicle Type	search by vehicle type filtering by All Vehicles or Motorcycles or Others
Plate Type	search by plate type filtering by <i>Light Background</i> or <i>Color Background</i> or <i>All Plate Types</i>
Evasion	search by evasion status by filtering for Only Evaders, Only Non- Evaders or Evaders and Non-Evaders

Traffic

The Traffic Report is a tool in which the user can generate graphs with the number of vehicles captured in an equipment in the period corresponding to one week (7 days). The report can be exported in *PDF* or *CSV format.*



Filter	Description
Equipment	search by registered equipment
Cameras	search by registered capture devices
License Plates	search by plate status by filtering by <i>Recognized</i> or <i>Unrecognized</i> or <i>All</i>
Start Date	search by start date and/or time
End Date	search by end date and/or time



Time and Speed

The Time and Speed Report is a tool in which the user can generate graphs with the average travel time and the average speed of a monitored section. The report can be exported in *PDF* or *CSV format*.



Filter	Description
Section	search by registered section
Start Date	search by start date
End Date	search by end date
Cutt-off Time	sets the <i>Cut-off Time</i> , which is equivalent to the maximum value that a route can take, to remove from the calculation the vehicles that, for example, stopped during the route

Origin and Destination

The Origin and Destination Report presents in graphic format the number of records with the same plate read and the percentage of vehicles per destination equipment, identified by the color in the caption. The report can be exported in *PDF* or *CSV format*.





Filter	Description
Equipment	search by equipment that will be the source of the data generated in the report
Start Date/Time	search by start date and/or time
End Date/Time	search by end date and/or time

Changed Plates

Upon receiving a capture in the system, the user can change the plate of the capture that was received. This change may be necessary if the plate detection algorithm is unable to recognize the plate number due to some problem in the image or because the plate was partially covered up. The *Changed Plates Report* displays the date/time information, equipment, capture device, plate, and the changes that have been made to the plate. The log information can be better viewed by clicking on the capture list image.



?

Changed Plate Report

	Security panel					
Q	TRAFFIC 10	Received total of 173 License plates altered. Presenting (1 up t	o 10)			
ID	Traf Date/Time	Equipment	Camera	License Plate	Alterations	Photo
7.515.119	19/12/2022 09:33:38	CFI 002/2F Av. Rul Barbosa - ATACADÃO - (Sentido Centro SJP)	Faixa Direita - 8070	AVZ0413	19/12/2022 09:34:25 - AYZ0413	
7.513.991	About 19/12/2022 09:10:30	CFI 004/4F Av. das Torres (em frente a DAJU)	Faixa 1	QIT1180	19/12/2022 09:13:42 - CIT1I80	
7.512.610	19/12/2022 08:41:37	CFI 004/4F Av. das Torres (em frente a DAJU)	Faixa 1	GFF5F62	19/12/2022 09:02:50 - CFF5F62	California (California)
7.512.373	19/12/2022 08:37:12	CFI 002/2F Av. Rui Barbosa - ATACADÃO - (Sentido Centro SJP)	Faixa Direita - 8070	AZF2185	19/12/2022 09:04:00 - AZI2185	1=
7.502.201	19/12/2022 07:40:19	CFI 002/2F Av. Rui Barbosa - ATACADÃO - (Sentido Centro SJP)	Faixa Esquerda - 8080	BBL1554	19/12/2022 09:05:06 - BHL1554	
7.499.847	19/12/2022 06:40:12	CFI 002/2F	Faixa Esquerda - 8080	APZ8J21	19/12/2022 09:05:47 - AFZ8J21	

System Log

Since ITSCAMPRO is a system that supports multi-users and each with a specific group of equipment and features, a log where it is possible to verify and audit the actions of users is extremely important. The *System Log Report* displays the Date/Time, User and a Message information displaying what action has been taken.

 System 	Log Report	?
	Initial date 20/12/2022 00 ↓ 00 ↓ Final date 20/12/2022 23 ↓ 59 ↓ ✔ Today	User Select a user Message
10 V Received total of Date/Time	7 logs. Presenting (1 up to 7) User	✓ Clean ▲ Filters Q Search Message
20/12/2022 15:47:30	daiane	Usuário dalane entrou no ITSCAMPRO através do IP '177.220.179.128'
20/12/2022 15:47:23	daiane	Usuário Daiane Alterado
20/12/2022 15:47:23	daiane	Usuário dalane salu do ITSCAMPRO
20/12/2022 14:30:32	daiane	Usuário dalane entrou no ITSCAMPRO através do IP *177.220.179.128*
20/12/2022 14:30:16	dalane	Usuário Dalane Alterado
	Filter	Description
Start Date		search by start date and/or time
End Date		search by end date and/or time
User		search by registered user

Message

search by message/message snippet



5. Search by Plate

Plate Search is a tool to search for a specific plate or for a partial plate stored in the database, which can be quickly performed in the Plate Search option, always visible in the top menu. Click the field, enter the desired plate, and press *Enter* to perform a search.

There are two ways to perform the search using a partial plate:

- To perform a search varying only one position, use the wildcard character "?". For example: if you search "BCY28?1" the system will search for all the plates only changing the position where the "?" is.
- To perform a search without specifying position, use the wildcard field "*". For example: if you search "BCY*" the system will fetch all boards starting with "BCY". There must be at least 3 non joker characters.



The search screen for similar plates opens in a new browser tab and initially displays only the list of similar plates found in the records. When selecting one of the similar plates found, the information is listed indicating the *Equipment* and *Camera* responsible for the records for this plate, along with the captured image.

Similar License plates		Information of the license plate. A mean 1					
Total of 1 license plate(s) found	Date	Equipment	Camera	Photo			
1 AGAINT	13/11/2013-17 52.40	5JP - TESTE II - (405,M04)	Falsa Esquerda - 4878	12			
< :	•						
	11/11/2018 18:58:52	5.0° - TESTE H - (405(.M64)	Patria Esquerda - 4076				
	11/11/2018 14:13:53	5.0° - TESTE 81 - (403LM64)	Falsa Esquerita - 4078				
	071110019 14 40 49	5.0P - TESTE #1 - (425LM04)	Paina Esquerita - 4079				
	3010/2019 10:02-44	5.0° - TESTE III - (403.464)	Passa Denta - 4070				
	25/15/2019 14 23 58	5.0 ¹⁰ - TESTE III - (405LM64)	Falsa Esquenta - 4878	the second s			
	« «	12	23456	> >			







