SELEA

LICENSE PLATE
MAKE
MODEL
TYPE
COLOR
NATIONALITY
SPEED
DIRECTION
GPS

CPS 6.5
LPR Management Software

Instruction Manual

This manual contains the instructions for the installation and use of:

CarPlateServer 6.5 (6.5.10 version)

Selea pays the utmost maximum attention to the information provided. However, no guarantee can be given on the content of this manual. The company also specifically rejects any guarantees regarding the saleability of the product, or its suitability for specific purposes.

Legal considerations

Video surveillance may be forbidden by local laws. Before carrying out video surveillance activities, check the legal requirements for the country of installation of the camera.

Manual release: 3.0 of 30/04/2024

INSTALLATION

It is possible to install the CPS 6.5 software via the executable file, downloadable from support.selea.com in the Software section, on the latest Windows operating systems (Windows 10 and up, Windows Server 2012 and up).

FIRST INSTALLATION

Opening the executable file starts the installation procedure.
When you reach the Component Selection, we recommend selecting the third option, which allows you to install all the software in the CPS 6.5 package:

CPS Config QT, CPS Explorer QT and CPS Monitor QT.
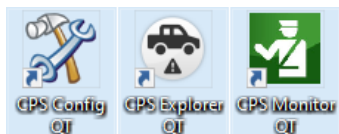
N.B: this manual deals in detail with the WEB APP of the CPS 6.5 accessible via a browser and presents all the functionalities of the software listed above on a single platform.

In the following screens, you will be asked about the operating system's architecture (32 or 64-bit) and whether you would like desktop icons of the programs to be installed.

Click on **Install** in the final summary window and wait for the end of the procedure.
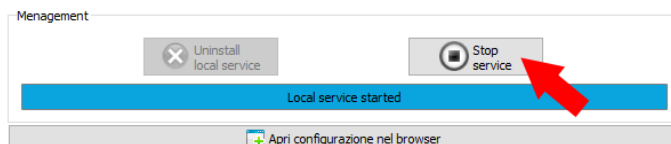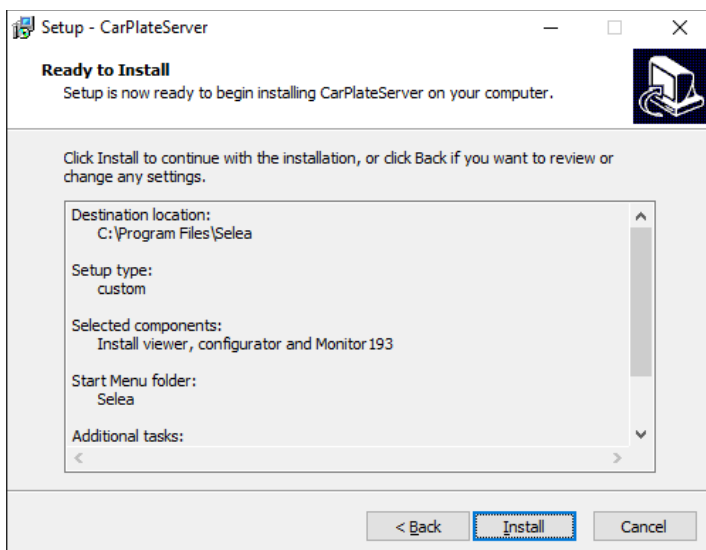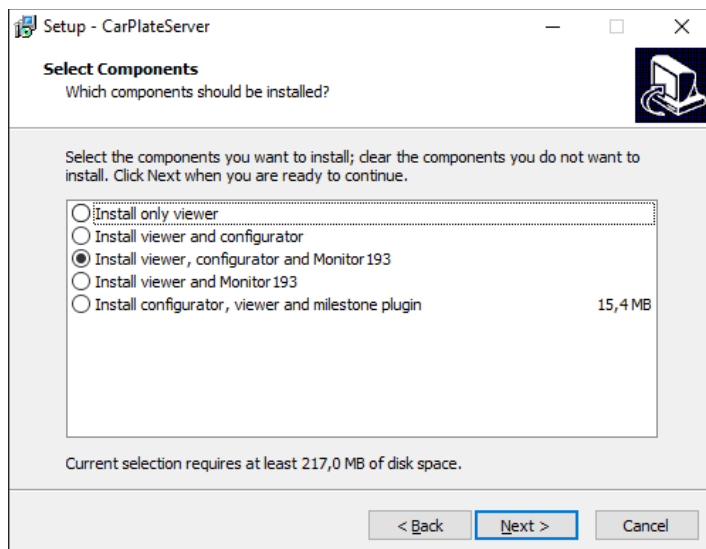
SOFTWARE UPDATE

In case of a **software update**, you must follow the same procedure as described.

N.B: Remember to **STOP THE SERVICE** before starting the update from the CPS Config QT!

Automatic updates can be activated (see page 11).

LICENSE INSTALLATION

Once the software installation procedure has been completed, it is possible to install the license.

Two types of licenses are available for **CPS 6.5**: DIGITAL and USB-DONGLE.

To install the **DIGITAL** license, you need to copy the license file provided by Selea to the following location: **C:\ProgramData\Selea\license.**

To install the **USB-DONGLE** license, insert it into one of the USB ports on your computer and keep it inserted at all times to prevent the software from running in DEMO mode.

FIRST START

To start **CPS 6.5**, follow these instructions:

1. Open the **CPS Config QT** software. The screen opposite will open, allowing us to configure the tab "**Local service**", which will be the only tab available.

2. Click on the "**Install local service**" button. After a few moments, you will be notified that the command has been executed, and the button will change to "**Uninstall local service**" to allow the removal of the service if necessary.

3. Create system access credentials by filling in the fields **Administrator** and **Password**. This user will be the **Superuser** of the system.

4. Set the chosen **Local port**. The preset **HTTP port** is the **8080**.

5. Set the field named **DB configuration path**. The folder **CarPlateServer**, which contains the DB and CPS configuration files, is saved by default at the following location: **C:\ProgramData\CarPlateServer**.
If you want to change the path, you need to move the folder **CarPlateServer** to the desired one.

6. Check the field **HTTPS** to enable a secure connection between the server and clients.

7. Click on the button "**Start service**" to enable the CPS service. You will be notified that the command has been executed, and the button will change to "**Stop service**" to allow the CPS service to be stopped if necessary.
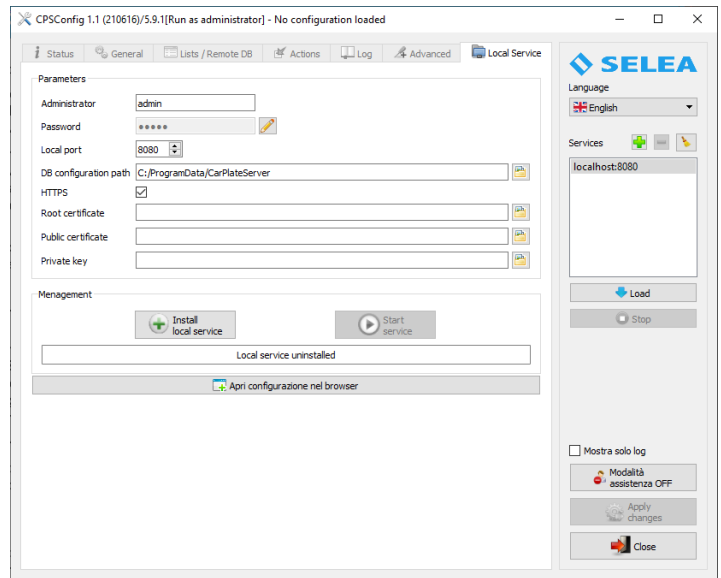
Once this initial procedure to start the system has been completed, the software will automatically load the service configuration "**localhost:8080**", allowing us to continue with more advanced configurations.

Authentication to the software with the administrator user just created will be requested.
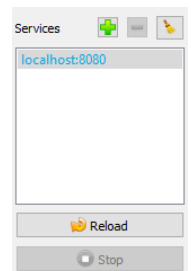
Carry out authentication if you wish to use the CPS Config QT for subsequent configurations, although we **RECOMMEND** the use of the **CPS 6.5 WEB interface**.
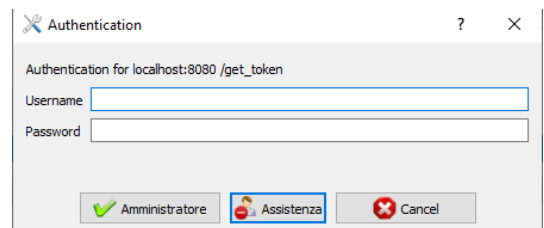
WEB INTERFACE

GENERAL OVERVIEW

The CPS web interface can be accessed using any browser (Chrome, Edge, Firefox and others) by typing the following address in the address bar: **https://localhost:8080** (replace **8080** with the HTTP port configured in the Config QT).

If **Selea Connect** is enabled (see page 14), it is possible to connect to the web interface from an external network via the following link: **https://webcps-idcps.selea.network:8999** (replace 'idcps' with the CPS license ID).

The start page of the web interface looks like the following image:

It is possible to view the CPS interface in one of the available languages: **Italian**, **English**, **Spanish** and **French**.

To access the system, it is necessary to authenticate using one of the available authentication methods with one of the HTTP users created in the CPS and click on one of the five available sections:
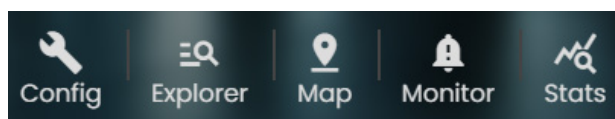
CONFIG is the section from which all system configurations can be changed.

EXPLORER is the section from which it is possible to perform advanced searches of transits for investigation purposes with the possibility of exporting transits of interest in the available formats (CSV, PDF, and images).

MAP is the section from which it is possible to view the positions of cameras and client devices connected via CPS Monitor on the Google map.

MONITOR is the section from which it is possible to receive real-time alarms with the possibility of filtering by alarm type and camera to be monitored.

STATS is the section from which you can view **system**, **transit**, **traffic**, **environment** and **tutor** statistics.

NAVIGATION BAR

You can move from one main section to another using the NAVBAR by clicking directly on the corresponding button (**Config, Explorer, Map, Monitor, Stats**).

 This button allows to close and open the SIDEBAR present in each section of the CPS.

 This button allows you to duplicate the currently displayed section in a new browser window. You can duplicate all sections except the Config section.

 In case of warnings in the CPS, this button appears, showing a preview of the number of warnings present. By clicking the button, the list of warnings with their respective descriptions will be displayed.

 Clicking on the "Support" button brings up the following menu:
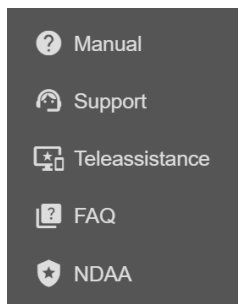
- **Manual**: It allows to download the CPS manual.
- **Support**: It allows to open the Selea support platform. It is possible to modify the link to which you are directed from the **Config/Advanced/Installer** section.
- **Teleassistence**: It allows to download Supremo Remote Desktop.
- **FAQ**: It allows to open a page where we answer the most frequently asked questions.
- **NDAA**: It allows to open the NDAA Compliance Declaration for Selea products.

 Clicking on the "User Profile" button brings up the following menu:
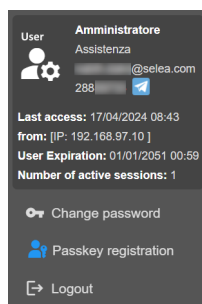
The menu displays general information about the logged-in user, including the username, hierarchy level, email, Telegram ID, last access, user expiration, and the number of active sessions.

- **Change password**: It allows you to modify the user's password.
- **Passkey registration**: It allows to register a passkey so that the user can access the CPS using fingerprint recognition.
- **Logout**: It allows to log out of the system.

 It allows to change the display language of the CPS.
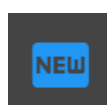
 In case of a software update for the CPS, this button appears, allowing to download the update for manual installation.

PASSKEY REGISTRATION

To proceed with the registration and use of the Passkey, it is necessary to connect to the CPS through a secure DNS. You can obtain a free SSL certificate for connections via Selea Connect by enabling the **Download secure certificate Selea**'function in the **Config/General/Privacy&Security** section.

NB: To complete the activation of the certificate, please contact Selea support.

When clicking on the **Passkey Registration** button, the following window appears:

To leverage the secure Selea certificate even on local connections, it's necessary to modify the Windows host file on the client used. To simplify this procedure, you can click on **Download file** and run the downloaded utility.
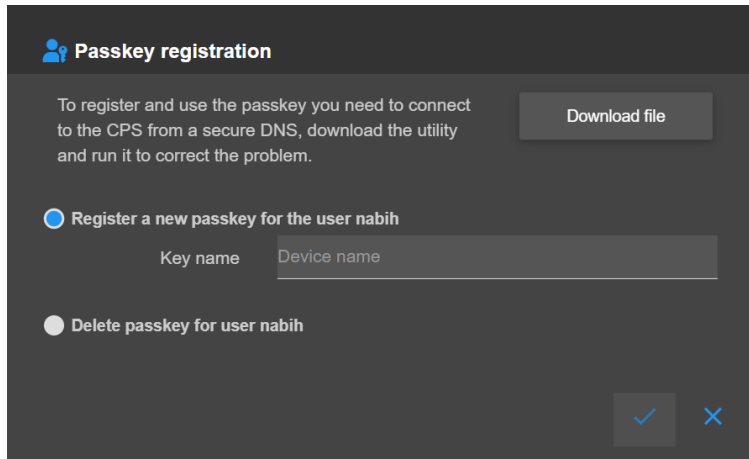
At this point, it will be possible to connect to the CPS locally using the same Selea Connect DNS by using the HTTP port instead of the 8999 port.

To register the passkey, you need to select the **Register a new passkey for the user** option and enter a **Key Name**.

Once done, the Windows, Android, or Apple device you're using will request confirmation of your identity by asking you to scan your fingerprint, and then it will permanently save the passkey.

To log in using the passkey, you need to click on **Log in with a passkey** on the login page, select your registered **Key Name**, and scan your fingerprint.
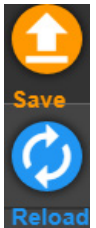
CONFIG

This section allows customization of the entire system configuration.
It provides many functions that can be activated or not according to requirements.

Below we describe and analyze the various available functions.

Remember that in order to save changes to the configuration, you must click on the "**save**" button at the top right of the screen and restart the system.

Click on '**reload**' to undo all unsaved changes.

HOME

This section displays the general status of the CPS and system information.

In the bar on the left there is a list of all categories and sub-categories of configurations that can be made.

The top section displays any warning/ error messages and notifications of any available updates.

The Home section contains system information divided into five main categories :
LICENSE, CONNECTED CAMERAS, SYSTEM, HTTP and **FTP.**
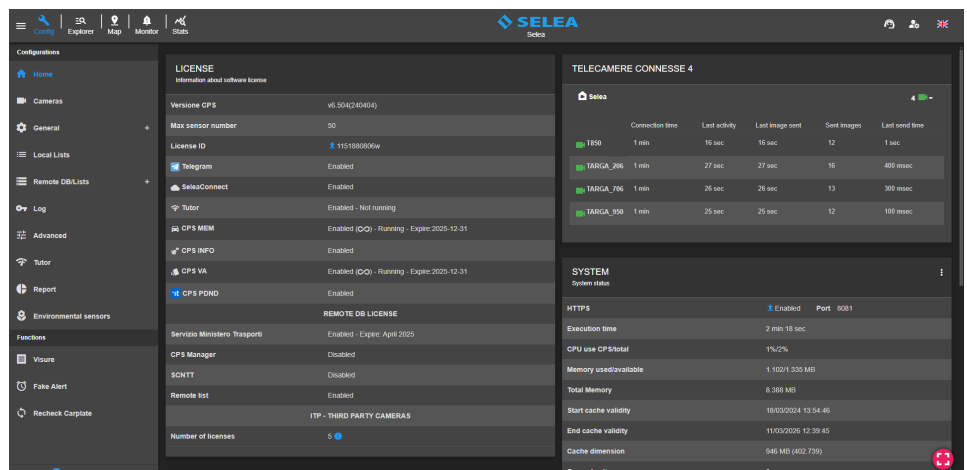
In the **LICENSE** pane is displayed the following information:
CPS Version: the version of software installed on the server (release date in brackets in yymmdd format).
Max sensor number: maximum number of cameras that can be connected to the CPS 6.5.
License ID: the serial number of the software license.
Remote DB expiring date: expiry date of the Alert for Ministry of Transport DB queries (free automatic renewal).
Telegram: Telegram service activation status.
SeleaConnect: the activation status of the SeleaConnect service that allows connection to the server from an external network.
Tutor: Tutor plug-in activation status.
CPS MEM: activation status of the MEM plug-in for the vehicle make and model recognition (License per camera).
CPS INFO: activation status of the CPSInfo plug-in for detecting the environmental class of vehicles (License per camera). Requires active connection to the Ministry of Transport service.
CPS VA: activation status of the plug-in for the vehicle type and color recognition (License per camera).
CPS PDND: activation status of the integration with the National Digital Data Platform.
REMOTE DB LICENSE: activation status of remote DBs, including the Ministry of Transport Service (enabled by default) and the SCNTT.
ITP - THIRD-PARTY CAMERAS: number of active licenses for third-party number plate reading cameras.

The **CONNECTED CAMERAS** pane lists all cameras connected to the CPS 6.5 and their operating information.

The **SYSTEM** pane displays information about the system, e.g., whether an HTTPS connection is active and whether a certificate can be uploaded, the uptime of the CPS, transit DB data, DB size and the number of queued remote DB queries, etc.
If necessary, it is possible to restart the service directly from the **Restart Service** button.

The **HTTP** pane displays the HTTP port used by the CPS, the number of HTTP connections currently active and the number of searches made within the CPS.

The **FTP** pane displays the active FTP connections, the number of files received via FTP and the volume of data transmitted via FTP.

CAMERAS

This section allows to enter and edit information about the cameras connected to the CPS.
Entry in this section is not compulsory for image transmission to the CPS. Still, it is useful to be able to attribute additional information to the cameras, such as GPS coordinates (if they are not already set on the camera), to enable video analysis licenses on the cameras, or if context images captured by IP cameras installed on the network need to be associated to the cameras, by capturing snapshots with appropriate HTTP commands sent to the camera concerned.

The section is divided into 4 main submenus: **Cameras - Config Cameras - Add Camera - Map**.
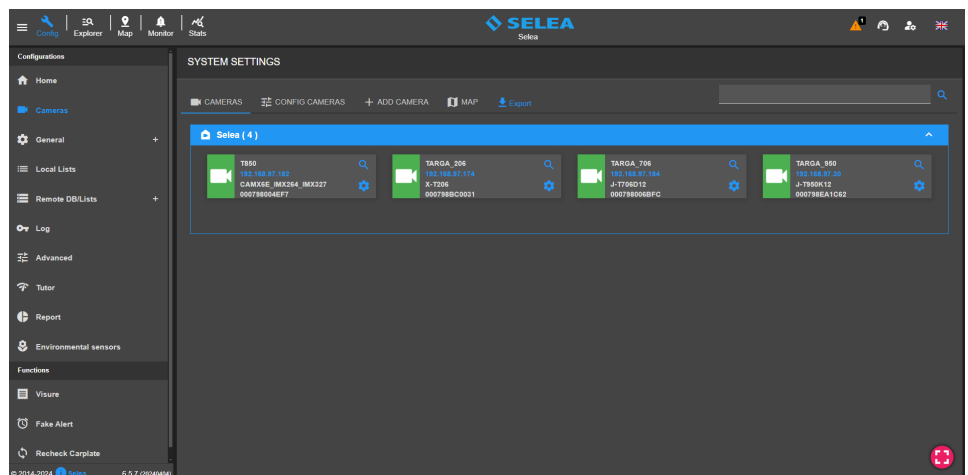
CAMERAS

This section displays the cameras connected to the CPS.

These will be highlighted in green if they are active, in red if they are offline or in yellow if they have any network ro configuration issues.
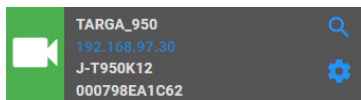
Clicking on the magnifying glass simbol will display all information relating to the camera while clicking on the gear symbol will open the **Config Cameras** section for that camera.

CONFIG CAMERAS

In this section, it is possible to access all the information on the cameras in our system and, if necessary, modify those already stored.

After selecting the camera of interest, it will be possible to delete it from the list using the delete button or to enter all available parameters.

The fields that must be entered are as follows:

- **MAC address**: physical address of the camera.

- **Camera description**: descriptive field for the camera.
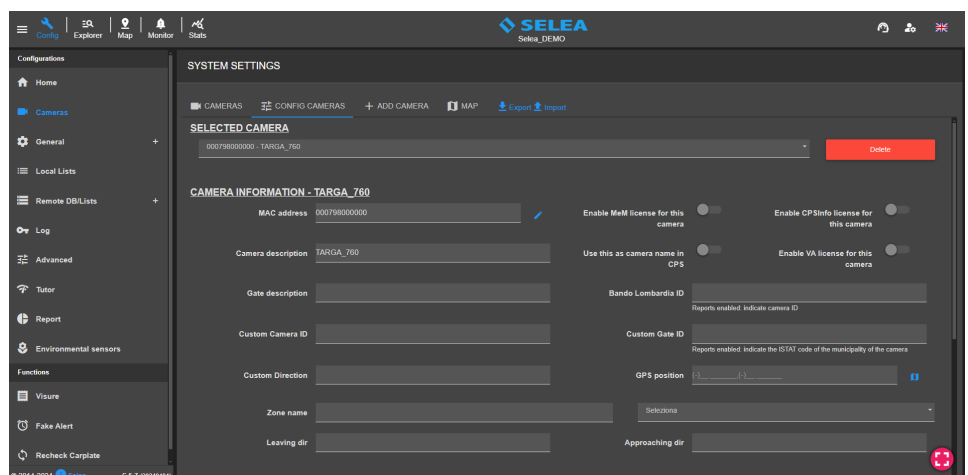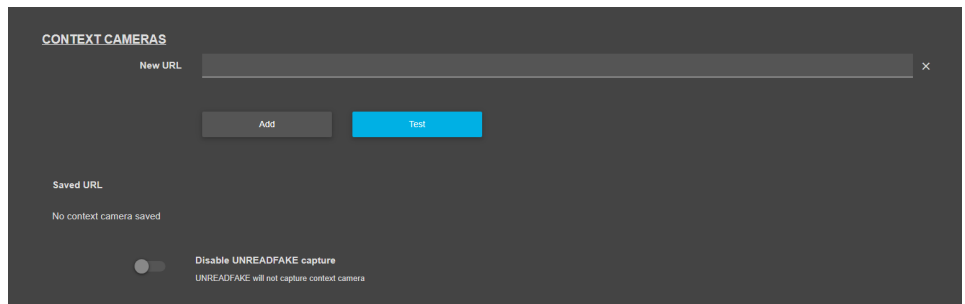
All other fields are optional.

- **Enable MeM license for this camera**: enables the recognition of the **make and model** of passing vehicles by the camera. The function is only available if the CPS is equipped with MeM licenses.

- **Enable CPSInfo license for this camera**: enables the detection of the **environmental class** of the vehicles. This function is only available if the CPS is equipped with CPSInfo licenses. Connection to the Italian Ministry of Transport service is required.

- **Enable VA license for this camera**: enables **type and color recognition** of passing vehicles by the camera. The function is only available if the CPS is equipped with type and color plug-in licenses. The option can only be activated on Selea X/J series cameras with integrated color context sensors.

- **Use this as camera name in CPS**: if enabled, allows the '**Camera Description**' field to be used as the camera name in CPS.

- **Gate description**: additional descriptive field.

- **Custom Camera ID**: can be used if the camera is to be interfaced with third-party software systems.
  This field can be used to indicate the output number of a PLC to be controlled by the CPS (Enter the variable "ID" in the "Output number" field in the PLC Output section in the actions of a list).

- **Bando Lombardia ID**: can be used to indicate the '**site numbering**' for the Bando Lombardia.

- **Custom Gate ID**: can be used if the camera is to be interfaced with third-party software systems.

- **Custom Direction**: can be used to indicate the '**direction of the detected flow**' for the Bando Lombardia. This data must be expressed in cardinal points (e.g., NW-SE) to indicate northwest-southeast.

- **GPS position**: can be used to enter the GPS coordinates of the camera. Clicking on the following button will open a map from which you can select the exact position of the camera to retrieve the coordinates in a simplified way.

- **Zone name**: can be used to define a zone group relative to the camera. This data can be used to perform filtered searches for cameras in a specific zone.

- **Leaving dir/Approaching dir**: can be used to indicate information regarding the direction of transit of vehicles by the camera.

From this section, it is also possible to associate one or more **third-party context cameras** with the OCR camera so that the CPS can associate the OCR image of the license plate transit with the images captured by these context cameras.
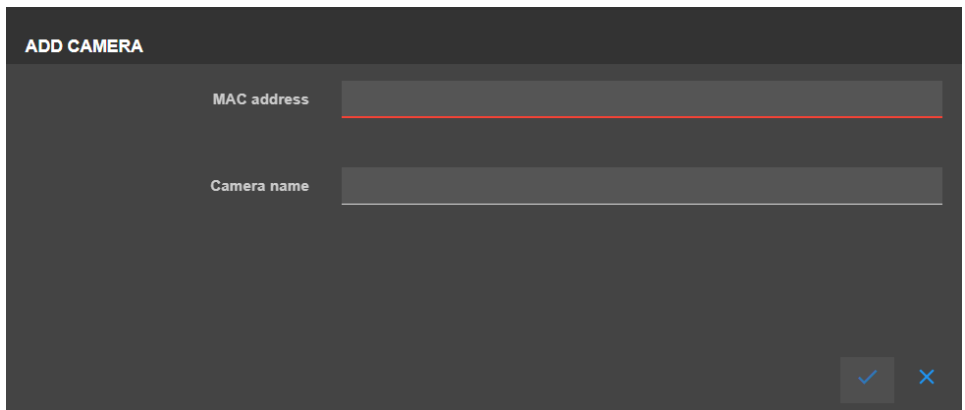
To insert a context camera, type in the field **New URL** the HTTP string to capture the snapshot (with the test button, you can check whether the command is correct) and click **Add** to save it. The **disable UNREADFAKE capture** flag can be used to disable the capture of context snapshots for transits catalogued by the camera with the UNREADFAKE type.

ADD CAMERA

In this section, you can add a new camera to be configured.
Simply enter the **MAC Address** of the camera and assign the **Camera Name**.

After adding the camera, you will be redirected to its configuration page.

MAP

In this section, it is possible to view a detailed map of the cameras installed in our CPS, into which GPS coordinates have been entered.

You can change the map's zoom level with the mouse wheel or zoom in with a double click on the left mouse button and zoom out with a double click on the right mouse button.
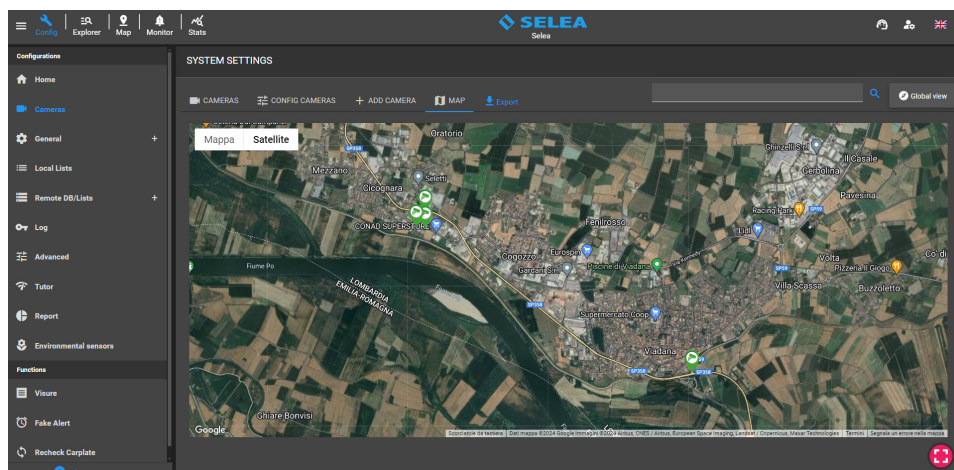
Clicking on the **Global view** button resets the zoom level such that all cameras configured with GPS coordinates on the map are shown.
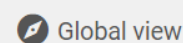
By clicking on the icon of a connected camera, a small window will appear showing a preview of the image taken by the camera and related information, including, for example, the name of the CPS to which it is connected, IP address, GPS coordinates, MAC address, version of the firmware installed, number of images sent etc.
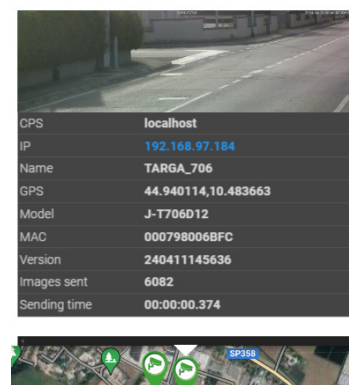
Clicking the **Export** button generates and downloads a CSV file containing the list of cameras connected to the system with the relevant information.

GENERAL

In this section, the main system configurations of CPS 6.5 can be carried out.
The section is divided into 6 submenus: *System - Email - Users - FTP - FTP access - Privacy&Security*

SYSTEM

In this section, general system parameters can be configured. We will analyze all configurable parameters below.

Server name: allows to specify a name to the CPS.

Use SeleaConnect: by activating this option, it will be possible to connect to the server from an external network (via CPS Monitor or Web Interface), even in the absence of a static public IP on the server, using the Selea server.

Global HTTP proxy: allows to configure an HTTP proxy if used for Internet browsing on the server on which the CPS is installed.

Activate MEM module(Enables the search of vehicle details): enabled if the Make and Model plug-in is activated.

Enable delete days: by activating this function, the CPS will automatically delete the following:
Context image: deletes color context images older than "n" days.
OCR Image: deletes OCR images older than "n" days.
Data in DB: deletes transits in the DB older than "n" days.

Deletion of sensitive data for privacy: deletes sensitive data (metadata) from the DB older than "n" days without completely deleting the transit.

Erase log older than: deletes all logs older than "n" days from the log file.

Maximum space for LOGs: allows you to set a maximum size for the log.

Notify plate on expire "n" days before: allows the CPS to send a telegram/e-mail notification to users enabled on lists, starting "n" days before the expiry of the plate.

Remove plate on expiration from white/black list: allows plates to be automatically removed from black/white lists once expiry dates have been reached.

Ignore remote DB search for whitelist: allows you to inhibit remote DB queries for all whitelisted number plates.

Minimum disk space: keeps at least "n" MB free on the disk to prevent it from filling up completely.
At least 10000 MB free (10GB) recommended.

Enable NTP server: by activating this option, CPS can also act as an NTP server to synchronize the date/time of the cameras in our system. CPS will operate on UDP port 123 for NTP server functionality.

Enable HTTP2: If activated, it will enable a second HTTP port on the server.

Enable CPS auto update: allows any CPS updates to be automatically detected and installed.
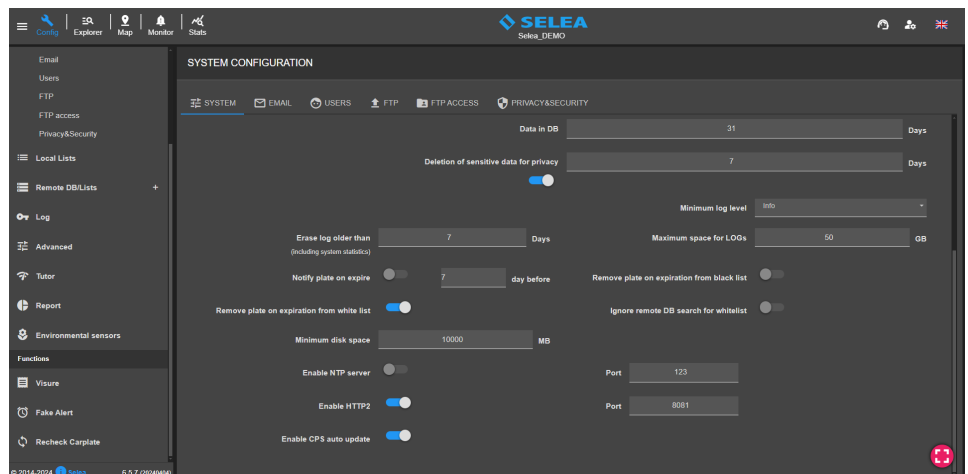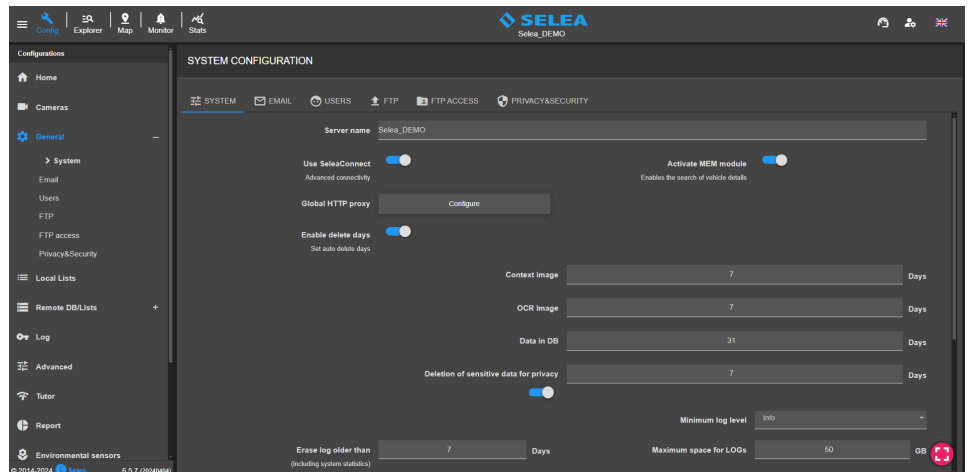
EMAIL

In this section, it is possible to configure the sending of e-mails for alerts concerning the status of the CPS, black/whitelist alarms and other functionalities in the CPS.
It is possible to enable this service by using the **Selea server** to send e-mails or by configuring a **custom server.**

To take advantage of the **Selea server**, configure the page opposite without enabling the customized server function.

Name: enter the name of the server.

Time between email: indicates how often system e-mails are sent after a report is generated.

Log: allows to send logs of searches made on the system.

**Tampering**: allows tampering e-mails to be sent if alerts are received from Selea cameras set up with tampering sensors.

Send email on connection lost after "n" seconds: allows an e-mail to be sent when a camera loses connection to the CPS for at least "n" seconds.

Send email if no carplate read after "n" hours: an e-mail can be sent when a camera no longer transmits number plates to the CPS for at least "n" hours.

Send email with backup config: allows a copy of the CPS configuration files to be sent every "n" hours.
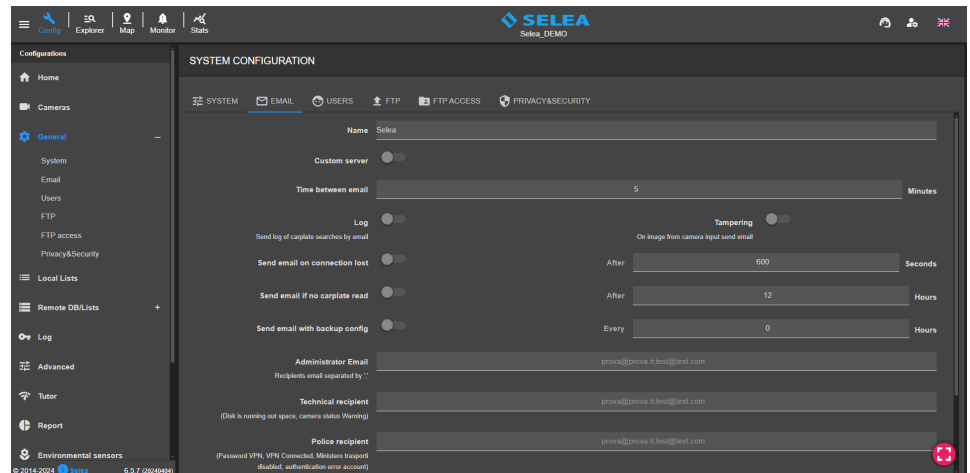
By enabling the **Custom Server** function, it will be possible to configure your own **SMTP server** for forwarding e-mails.

When using **smtp.gmail.com**, you must activate two-step verification and create a new app password in your Google Account settings.
The complete guide can be downloaded by clicking the **Download OAuth2 guide** button.
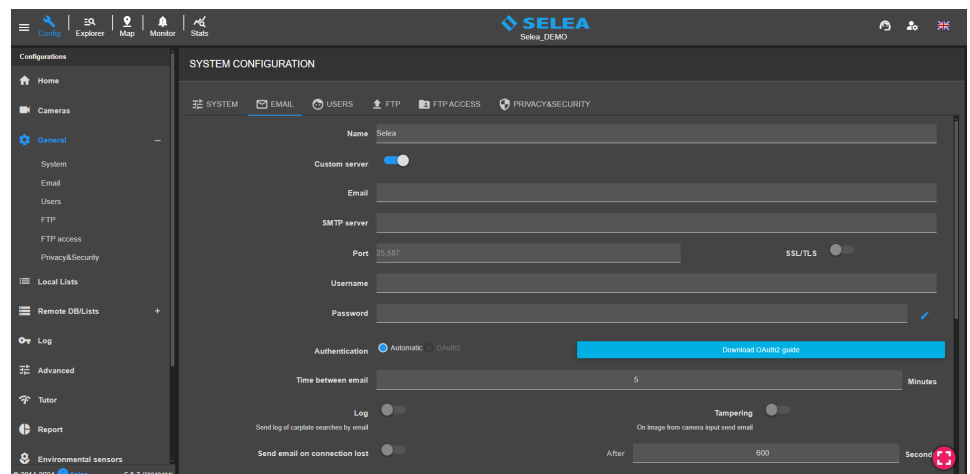
Finally, it is necessary to enter the notification e-mails in the appropriate fields (**Administrator Email, Technical Recipient, Police Recipient, Third Party Recipient**) according to the recipients' competencies.

Press the button **Test email** to check that the configuration is correct, and that e-mail forwarding is active.

If the test is successful, an e-mail containing a control code will be forwarded to all e-mails entered in the recipient fields.

USERS

In this section, it is possible to manage the system users who can connect to the CPS and use all the functions enabled.

At the top is a field we can search for a user from the list.

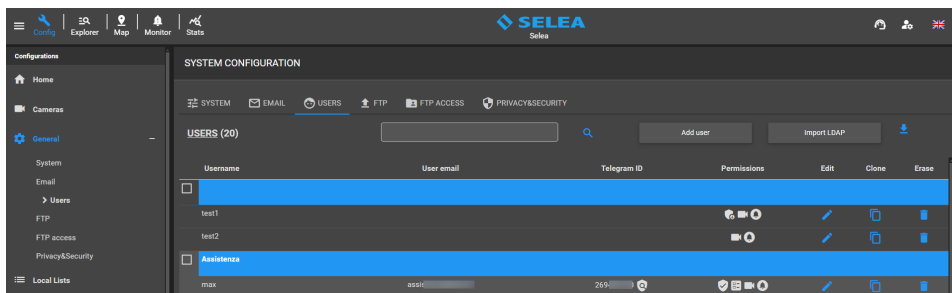Next is the **Add User** button, via which a new user can be added, and the **Import LDAP** button, through which users can be imported from an LDAP server.

Finally, there is the list of users created in the system which can be divided by office of competence as can be seen in the example alongside.

By clicking the Add User button, the opposite window will appear from where you can create a new user.

The user's **username** and **password** must be entered.
By enabling the **Administrator** function, the user will have administrator rights and will have access to all CPS configurations.
Instead, by enabling **Privileged user**, the user will not have restricted access to system configurations; in particular, they will be able to manage and create users and lists enabled to them.
If neither option is enabled, we will have a **basic user** who, in addition to searching from Explorer and using the Monitor section, can only manage the lists enabled for him in the Config section.

The following buttons, respectively, allow to block the user and close all old web sessions opened by the user.

Optional additional information can be entered in the **Name** and **Note** fields.
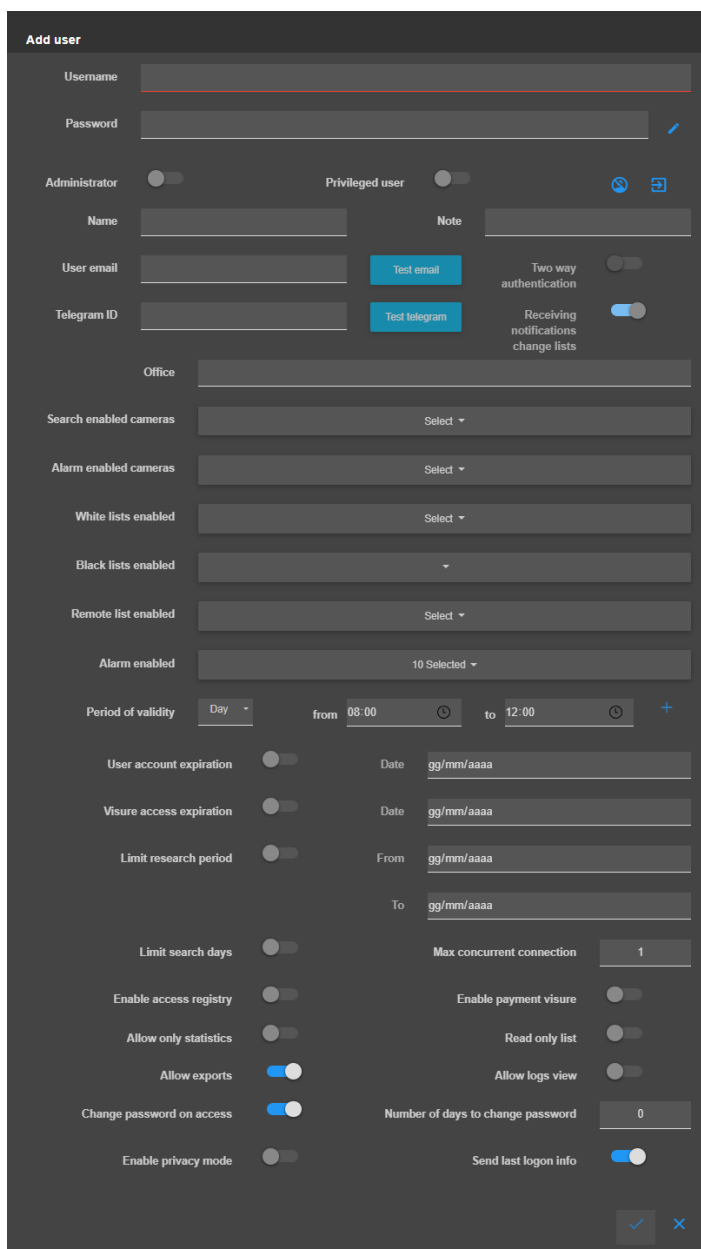
In the field **User email**, you can specify the user's e-mail address on which they can receive license plate alarms. Click on **Test email** to test the function.

In the **Telegram ID** field, you can enter the **ID** from the Telegram Bot **@selea_bot**, on which it will be able to receive license plate alarms.
Enabling **Two way authentication** will send a numeric code to the Telegram bot to confirm the user's ID.
Enabling **Receiving notifications change lists** will send a Telegram notification each time a change is made to the enabled lists.

In the field **Office**, you can enter the description of the office related to the entered user. Users will be grouped according to their entered office of competence, and it will be possibile to assign or change permissions for the entire user group.

Search enabled cameras: allows to select the cameras that the user can check in investigative searches from the Explorer. section.

Alarm enabled cameras: allows to select the cameras from which the user will receive alarms of reported number plates.

White lists enabled: allows to select the WHITELISTS to be enabled for the user.

Black lists enabled: allows to select the BLACKLISTS to be enabled for the user.

Remote list enabled: allows to select remote BLACKLISTS, imported from remote CPS servers, to be enabled to the user.

Alarm enabled: allows to select the types of alarms the user can receive.

User account expiration: allows to define a date after which the created user will no longer have access to the platform (mandatory field).

Visure access expiration: allows to set a deadline for the user to access Visure.

Limit research period: allows you to perform searches only within the set period.

Limit search days: allows to limit the number of days the user can check in the Explorer.
This function also limits the display of personal data of the owners of vehicles not reported for insurance or expired MOT.

Max concurrent connection: allows to define the maximum number of concurrent sessions of the CPS monitor software (Android and Windows versions) that the user may activate.

Enable access registry: allows the user to view personal data of vehicles owners.

Enable payment visure: allows the user to carry out paid Visure.

Allow only statistics: allows the user to view only the STATS section.

Read only list: allows the user to view the content of enabled lists without being able to edit them.

Allow exports: allows the user to export the transit of interest searched in the Explorer.

Allow logs view: allows the "non-administrator" to access the logs and view all the information.

Change password on access: allows the user to enter a new password when logging in to the web interface for the first time.

Number of days to change password: allows users to change their access password every "n" days.

Enable privacy mode: enabling this mode denies the display of sensitive data to the user.

Send last login info: allows the user to receive a notification (e-mail, telegram) of access to the CPS each time they log onto the web interface.

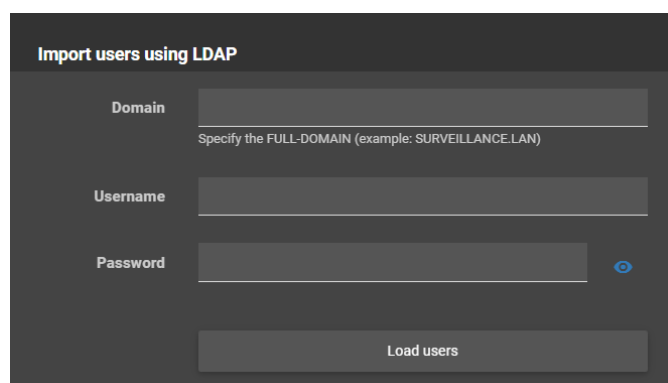**Enable CPSMonitor only:** enabling this mode allow the user to only use the CPSMonitor.

It will be possible to **Edit**, **Clone** or **Erase** the users created using the following buttons next to each user:

Edit: allows to change the various permissions assigned to the user.
Clone: allows to create a new user with the same permissions as the cloned user.
Delete: you can permanently delete the user from the system.
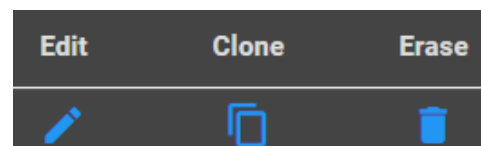
By clicking on the **Import LDAP** button, the following window will appear:

This function can be used to import users present on an LDAP server. You will need to enter the **Domain** of the server and enter the **Username** and **Password** of the LDAP server administrator user.
Clicking on **Load Users** should bring up a window with a complete list of LDAP server users.

You will then be able to select the users of interest and confirm your choice.

Once the users have been loaded, they can be configured like regular users, assigning them various permissions.

FTP

This section sets the general FTP parameters the CPS uses for receiving images sent by the cameras. All configurable parameters will be analyzed below.

Enable image receiving: enables the CPS to receive FTP notifications from cameras connected to the system.

Server Port: FTP port between CPS and cameras. Port 21 is set by default, but if it is already busy, another port can be used.

Keep encrypted image files on disk: if enabled, the CPS will encrypt all images it receives from the cameras.

Erase if syntax do not match: allows the CPS to delete all received transits that do not have valid syntax and therefore do not correspond to any nationality.
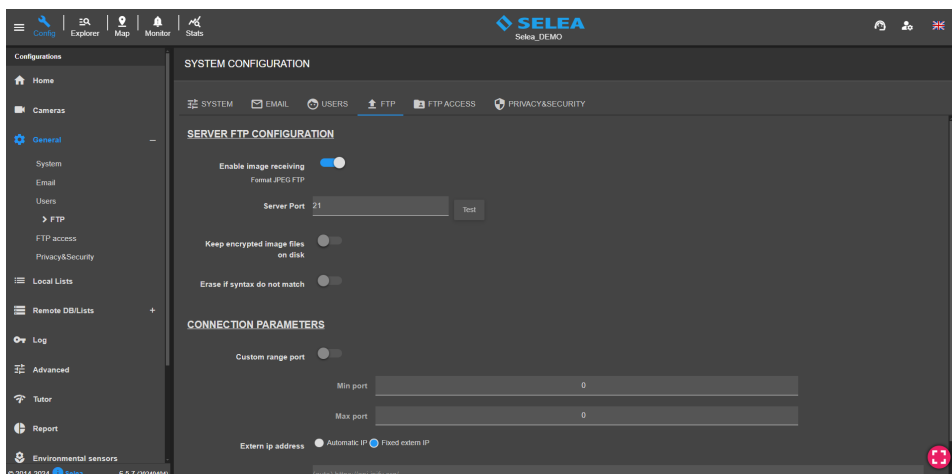
In **CONNECTION PARAMETERS**, a range of ports is specified, which the CPS uses to receive camera images if connected to the Internet via an external internet network.

In this case, we recommend opening a couple of ports per camera and specifying the static public IP of the server on which the CPS is installed in the **External ip address** field.
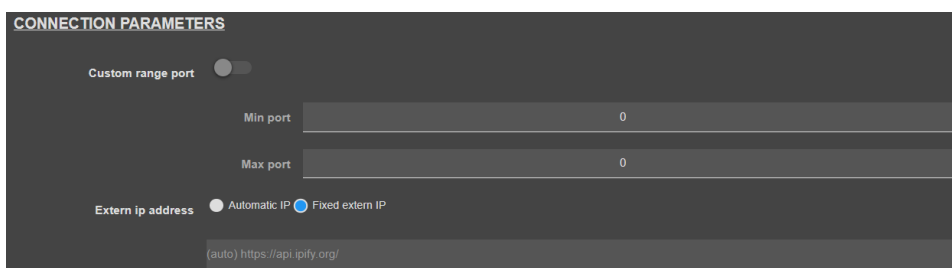
FTP ACCESS

In this section, it must defined at least one FTP user, which will be entered into the cameras' FTP configuration to transmit images to the CPS.

To add a new FTP user, enter the **Username** and **Password** and select the home directory where all images from the cameras will be saved.

To permanently add the user, press the **Add** button.

PRIVACY&SECURITY
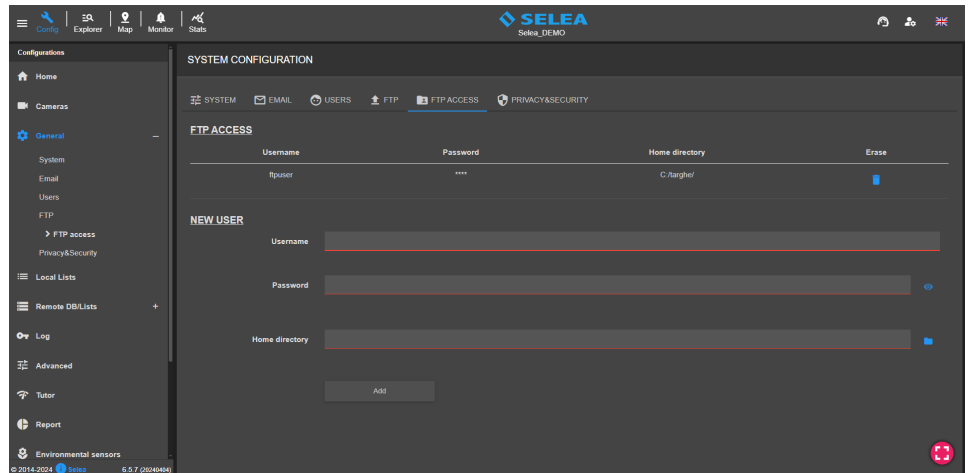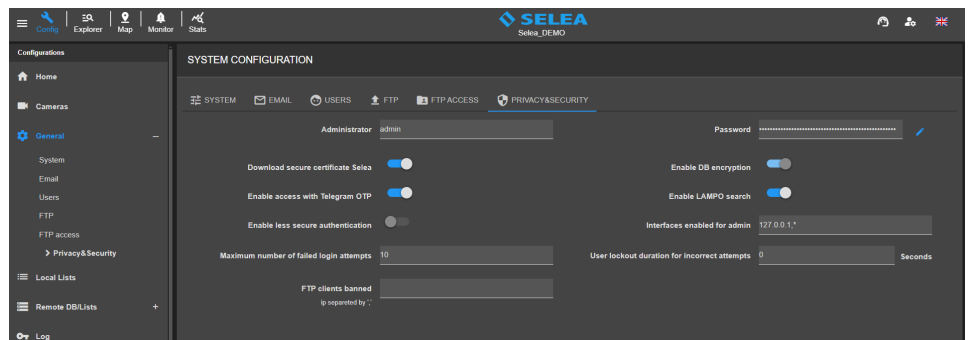
This section contains some settings related to the privacy and security of the CPS.

If you are logged in as Adminsitrator, you can change your **password** from this section.

Download secure certificate Selea: allow to enable an SSL certificate on the connection to the CPS via the **SeleaConnect** service (**https://webcps-idcps.selea.network:8999**). To complete the activation of the certificate, contact Selea customer support.

Enable DB encryption: allows all data to be kept encrypted in the CPS's DB.

Enable access with Telegram OTP: allows users with Telegram ID to access CPS via Telegram OTP.

Enable LAMPO search: allows enabling/disabling LAMPO searches that can be performed by the Telegram bot by authorized law enforcement directly from Selea.

Enable less secure authentication: the CPS uses DIGEST secure authentication by default, but if it necessary to enable HTTP less secure authentication, it can be done by enabling this function.

Interfaces enabled for admin: allows to limit the IP interfaces from which admin users can access by entering only permitted IP addresses.

Maximum number of failed login attempts: allows you to set a maximum number of attempts beyond which users are blocked for 'n' seconds.

User lockout duration for incorrect attempts: allows to set the duration of the user lockout if they exceed the maximum number of incorrect login attempts.

FTP clients banned: allows inserting the IP addresses of FTP clients to be banned from the system.

LOCAL LISTS

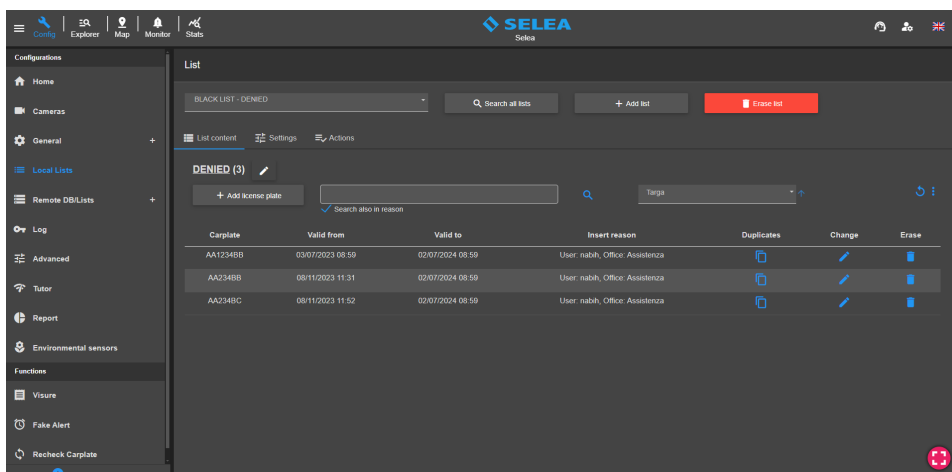In this section it is possible to manage local **Black/White List** and the **NO LIST**.

At the top, you can select the list you want to edit or delete.

The **NO LIST** is a fictitious list that identifies all number plates not reported by local or remote lists.

Clicking on **Search all lists** will allow to search for a number plate in all local lists in the system.

Click on **Add List** to add a new list; name it and select its type (**Black list** or **White list**).

Click on **Erase list** to erase the selected list.

It is possible to customize local lists from the three available sections analyzed below: **List content**, **Settings** and **Actions**.
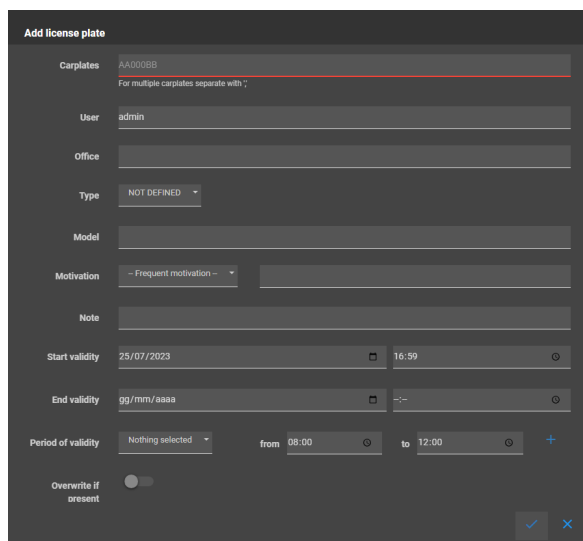
LIST CONTENT

In this section, it is possible to display a list of the number plates included in the selected list.

There is a search field from which it is possible to search for a number plate within the list, with the possibility of also searching using keywords entered in the motivation if the '**Search also in reason**' function has been selected.
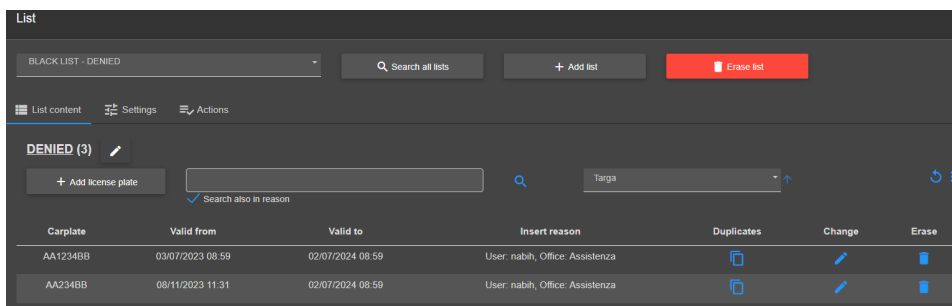
The **Add License Plate** button allows a new license plate to be added to the local list. Clicking on the button will display the following form:

In the **Carplate** field, you can enter one or more plates separated by ';'. In addition to the number plate, it is possible to enter additional information such as the Vehicle **Type**, **Model**, **Motivation** and **Notes**.

It is necessary to enter a **Start Validity** Date for the number plate in the list; if no **End Validity** Date is entered, the number plate will be valid forever.

It is possible to enter **Period of validity** for the license plate by selecting the days and hours of interest.

By enabling the **Overwrite if present** function, the number plate and its information will be overwritten in the list if it was already present.

By clicking on the options symbol, the following menu will appear:
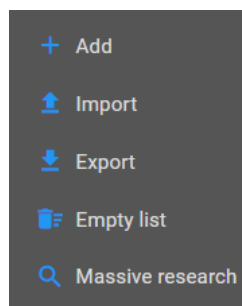
Add: allows to add a number plate to the list.

Import: allows to import a number plate csv/txt file which must be in the following format: NUMBER PLATE;MOTIVATION;04/07/2020 08:00:00;04/07/2021 08:00:00;

Export: allows the list's contents to be exported in csv format.

Empty list: allows to completely delete the contents of the list.

Massive research: allows you to upload a csv/txt file containing the plates you wish to check in the list.

Next to each number plate in the list, there are 3 buttons:
Duplicate, **Change** and **Erase**.

Carplate	Valid from	Valid to	Insert reason	Duplicates	Change	Erase
AA123BB	17/05/2023 18:01	16/05/2024 18:01	User: admin			
AA321CC	17/05/2023 18:01	16/05/2024 18:01	User: admin			

Duplicate: allows the license plate to be copied within another list of the same type.
Change: allows the additional information entered with the license plate to be modified.
Erase: allows the license plate to be permanently deleted from the list.

WHITE LIST SETTINGS

In this section, additional functions can be enabled for the selected white list.
Below we will analyze the configurable parameters:

Add special vehicles to list:
select specific categories of singular vehicles from the list (Carabinieri, Vigili del fuoco, Croce rossa italiana, Guardia di finanza, Esercito italiano, Polizia di stato, Polizia locale).
The number plates of the selected categories will be considered part of the white list.

Inhibit notifications for license plates on this list (including those of the BLACK LIST):
allows the CPS to inhibit the sending of notifications for number plates inserted in the white list that are also present in black lists (including the INTERFORCES). This function is useful for law enforcement agencies if they enter a cloned number plate in the INTERFORCES list, for example, and therefore do not want to receive alerts of the transit of the real number plate that has been cloned circulating continuously.

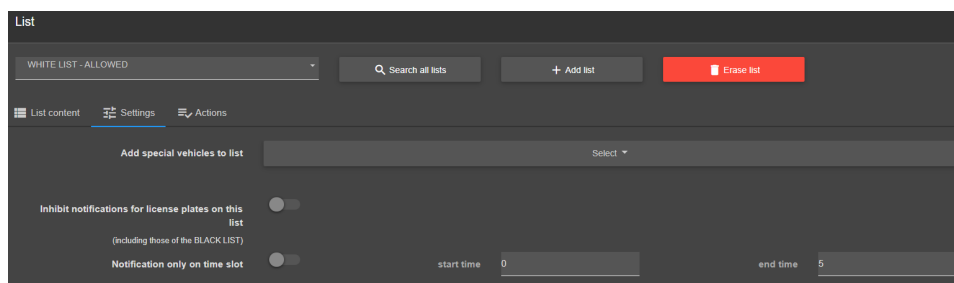**Notification only on time slot**: allows you to set a daily time slot in which the list will be running.

BLACK LIST SETTINGS

In this section, additional functions can be enabled for the selected black list.
Below we will analyze the configurable parameters:

Add country to list: allows to select the nationalities of number plates to be reported.

Add province to list: allow to select the italian provinces of number plates to be reported.

Add dangerous goods to list: allows to select the dangerous goods to be reported.

Notification by vehicle type: allows to select the vehicle types to be reported.

Stopped vehicle notification: allows the black list to report stopped vehicles detected by cameras.

Wrong direction notification: allows the blacklist to report wrong-way vehicles detected by cameras.

Queue notification: allows to report the queues detected by cameras equipped with queue recognition.

Fire smoke notification: allows to report the presence of smoke and flames captured by cameras equipped with smoke and fire recognition.

This list can also contain SSN: allows the list also to contain SSN information. Connection to MCTC is required in order to report transits by SSN information.

Enable this as INTERFORCES list: by enabling this function, the list becomes the system's INTERFORCES list. You can only enable this function on one of the local black lists (we recommend calling this list 'INTERFORCES'). All encrypted number plates entered by Selea-enabled law enforcement agents will automatically be copied to this list.
By enabling the related function **Enable flash notifications**, you will be able to receive notifications of the number plates entered in the INTERFORCES list when they pass through other participating municipalities.
Please contact technical support for further details.

Notify plate on first transit: allows reporting of number plates transited for the first time in the last 'n' days.

Notify plate for speed: allows the black list to report vehicles that have passed at a higher speed than the one set in the '**over the limit (km/h)**' field.

Notify plate for ecoclass: allows the black list to report vehicles with an environmental class lower than that indicated in the '**under the class**' field.
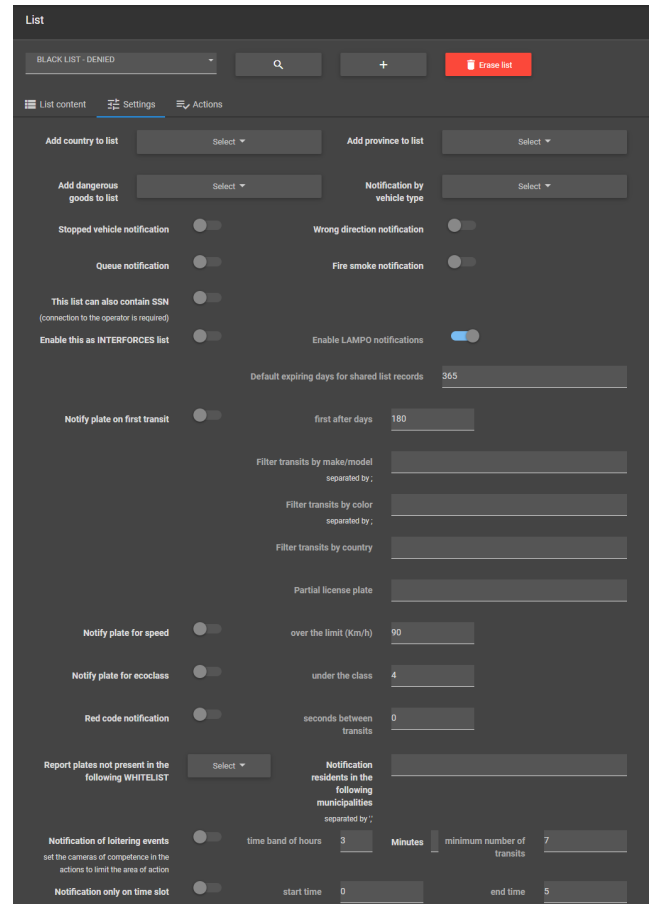
Red code notification: allows associating the plates/IDs of stalkers with the plates inserted in the black list. By enabling the function, the 'Stalker' field appears next to the 'Carplates' field in the 'Add license plate' window. The function allows sending a report in case the time interval between the victim's transit and the stalker's is less than the 'n' seconds entered in the 'seconds between transits' field.

Report plates not present in the following WHITELIST: select the white lists whose number plates are not to be reported by the black list.

Notification residents in the following municipalities: allows to enter a comma-separated list of municipalities. Through this function, the black list will be able to report all vehicles whose owners are residents in one of the italian municipalities entered.

Notification of loitering events: allows the blacklist to report vehicles with minimum transits in the set time slot.

Notification only on time slot: allows you to set a daily time slot in which the list will run.

ACTIONS

In this section, it is necessary to set the **actions** to be performed by the lists when a number plate in them is transited or when a transit is detected that meets one or more of the conditions activated in the List **Settings**.

Below we will analyze the various actions that can be activated for each list:

- **Enable actions**: allows to enable the actions of the selected list.

- **HTTP request**: allows to send an HTTP request to a server with the information of interest concerning the license plate being transited (to obtain the complete list of information, click the **Add Tag** button).

- **Send email**: allows alarms to be sent by e-mail. Selecting **Specific recipients** requires the recipient e-mail addresses to be entered in the field below while selecting **Use user rules** will consider as recipients CPS users with a configured e-mail address and who are enabled for the selected list.
By enabling the **Send email notify immediately** function, the reports will be sent with each transit, whereas if the function is not enabled, all transits will be sent together in one email after the time in minutes specified in the email section of the CPS. It is also possible to attach an image of the transits to the email sent by enabling the **Include attachment to Email** function.

- **Camera output**: allows to activate the camera output that reads the license plate. It is possible to enter the **Output retention time** defined in seconds. It is necessary to fill in the **Username** and **Password** fields with the camera's login credentials. Via the **Test Output** button is possible to verify the configuration.

- **Execute program**: allows to run a program (.exe) and it's possible to pass **Parameters** to it by entering them in the appropriate field.

- **Send live alert**: allows to send alarms to the **CPS Monitor** application (windows, android and web versions).

- **PLC output**: allows to enable the output of a PLC.

- **Telegram notification**: allows notifications (including pictures) to be sent to the Telegram bot (**@selea_bot**). As with email, you can select a **Specific recipients** and add the **Telegram ID** in the appropriate field or select **Use user rules** (recommended choice) so that Telegram notifications are sent to all CPS users with a Telegram ID configured and have the list enabled. To retrieve your Telegram ID, you need to install Telegram on your device, search for and activate the SeleaCPS bot (@selea_bot) and click on the **Show ID** button.

- **Competence camera**: allows to select the cameras whose transits will be monitored with the selected list.

- **Send TCP notification to**: allows to select the notification forwarding servers configured in the **Advanced/Notifier Forwarding Server** of the CPS to which the list will send notifications.

- **Send FTP notification to**: allows to select the FTP servers configured in the **Advanced/Backup server** section to which the list will send notifications.
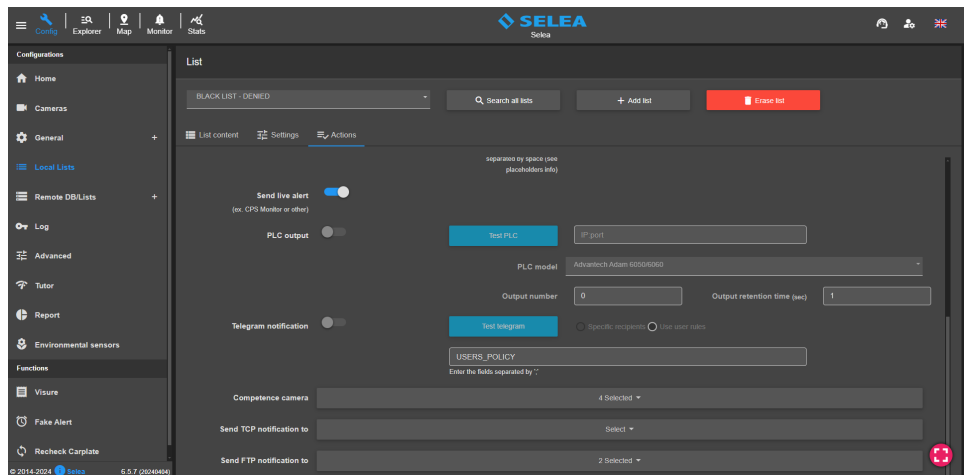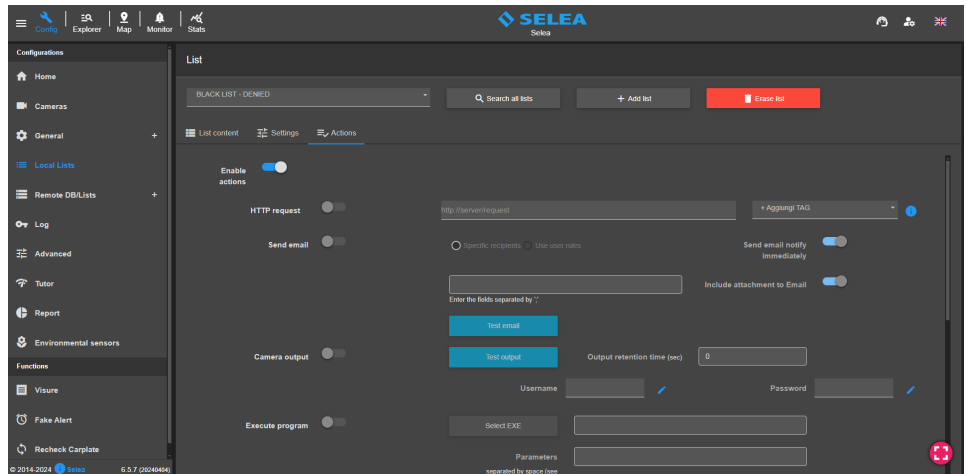
REMOTE DB/LISTS

In this section, you can configure access to remote lists on remote CPS for which you have the login credentials or on the Ministry of Transportation server and query them with each transit in our system.
Below we will go through the configurable parameters.

REMOTE LIST

Remote list offline

To enable linking to remote CPS lists, it is necessary to enable the flag **Enable remote list offline**.

Enter the **Name**, the **ID license** of the remote CPS and the **Username** and **Password** of a remote CPS user.

This configuration allows remote black lists to be displayed in the Local Lists section, which will be read-only.
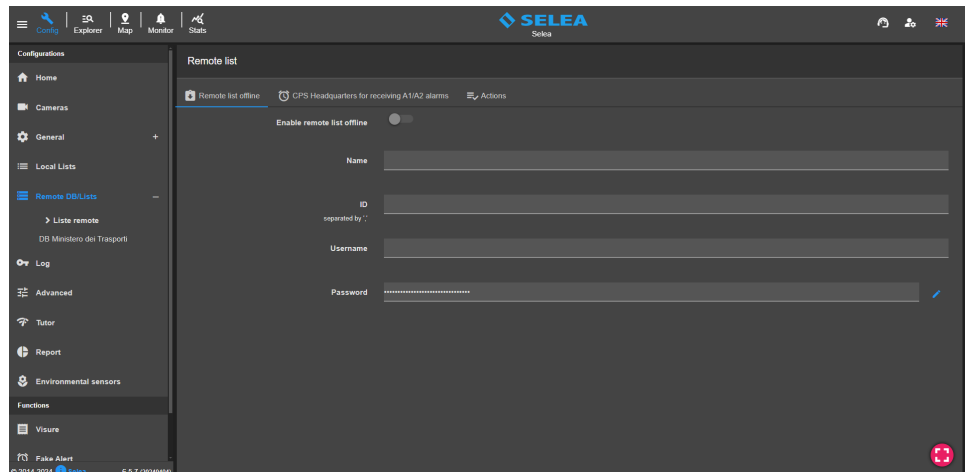
CPS Headquarters for receiving A1/A2 alarms

In this section, you can configure the connection to the CPS of a Police Headquarters, which connects to the SCNTT for receiving A1(stolen cars) and A2(expired revisions) alerts.

You need to enter the Server Address of the CPS of the Headquarters, the HTTPS Port set, and the Username and Password of a user of the CPS of the Headquarters.
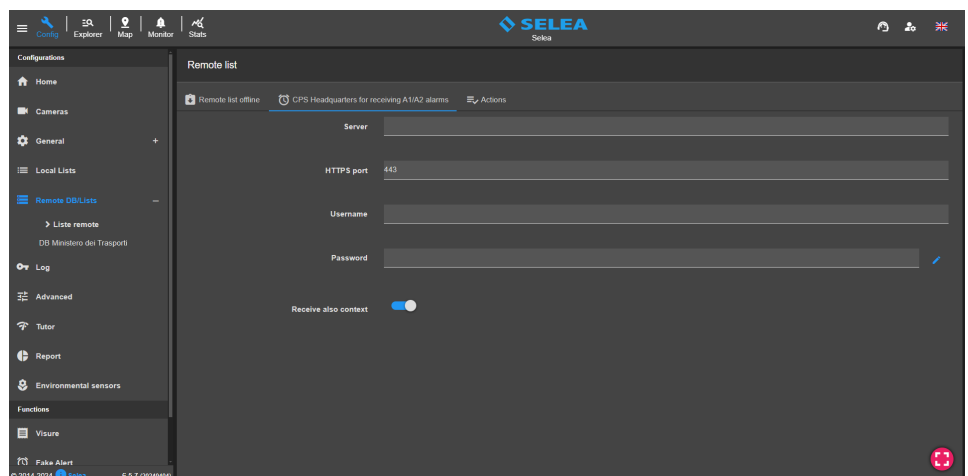
Actions: see pag 23.

DB MCTC

In this section, you can configure access to the Ministry of Transportation server to make queries for expired insurance/car reviews.

Parameters

Connect to the server of the Ministry of Transport there are 3 ways:

1. **SPC/VPN Site-To-Site**
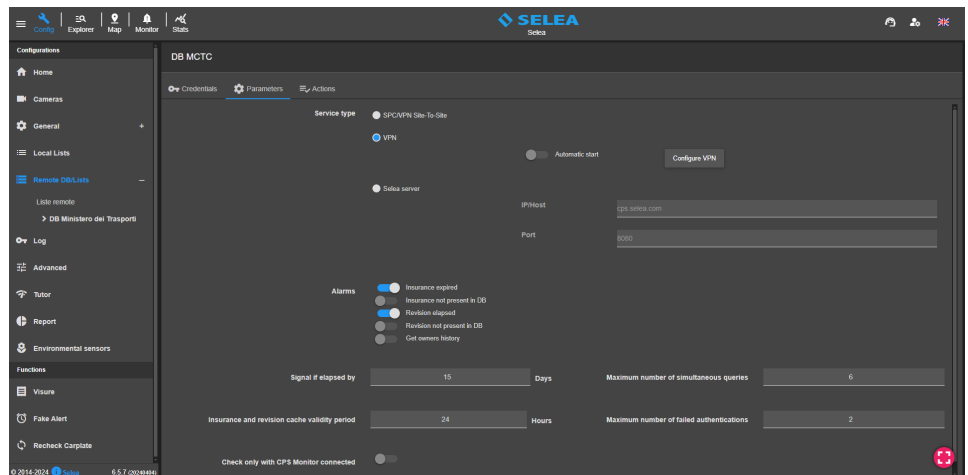
2. **VPN (Client-To-Site)**

3. **Selea server**

- Through the **SPC/VPN site-to-site**, all PCs in the network are connected to the VPN of the Ministry of Transport.

- In case of connection **VPN client-to-site**, it is required the installation and startup of the software **Cisco Anyconnect** on the server itself.

To activate **Cisco Anyconnect**, you must enter the following string in the appropriate field as shown in the example:
anyvpn.ilportaledellautomobilista.it/utentiMCTC
After pressing the Connect button, it will be possible to enter the login credentials of the VPN, provided by the Ministry of Transportation.
(Cisco Anyconnect can only be activated on one computer at a time)
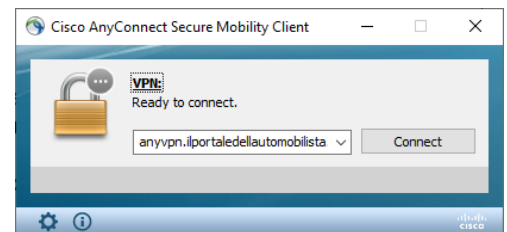
VPN credentials also need to be set up on the CPS.
By clicking on the **Configure VPN** button, you will move on to the **Credentials** section, which will allow the VPN credentials to be entered in addition to the credentials of Portale dell'automobilista.
By activating the option "**Automatic start**", the VPN connection will be activated when the server is turned on, and in case Cisco Anyconnect disconnects, the CPS will try to reconnect it automatically (remember to enable the "**Send live alert**" in the Action section of the DB Ministry of Transportation list otherwise the automatic VPN startup will not work).

- Instead, by selecting a **Selea server**, the CPS will query the ministry by relying on another CPS server with a VPN or SPC connection to the Ministry of Transportation.
It is necessary to enter the Public IP of the remote CPS server in the **IP/Host** field (or the ID of the CarPlateServer that you want to connect to via SeleaConnect, in case it does not have a reachable public ip) and enter the **HTTP port** configured in the remote CPS. In the Credentials section, the Username and Password of a remote CPS user must be entered.

Alarms

You can check off one or more reports you would like to receive from the DB Ministry of Transportation from those available: **Insurance expired**, **Insurance not present in DB**, **Revision elapsed** and **Revision not present in DB**.

In the field **Signal if elapsed by "n" days** are entered the number of days (15 days) to add to the insurance expiration date, after which the CPS will give the expired insurance alarm.

In the field **Maximum number of simultaneous queries** can be entered the limit of simultaneous queries that the CPS can send to the Ministry of Transportation server.
It is recommended to leave the default value and not enter a value higher than 8.

By activating the **Check only with CPS Monitor connected** function, queries will be performed only upon activation of the CPS Monitor app and the subsequent selection of one or more gates from the gates filter. This function is advisable if the Ministry of Transport DB is found to be slow in reporting the outcome of the queries.

From the **Test** button in the **Credentials** section, you can query by entering a license plate and check whether or not the system returns insurance/revision data. If the query is not successful, it means that there is one of the following problems: incorrect/expired passwords or Cisco Anyconnect not connected.
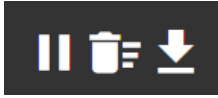
Actions: see pag 23.

LOG

In this section, it is possible to view all information related to the operation of the CPS system.

The real-time logs will be displayed as soon as you enter the section.

At the top right are the following buttons through which you can respectively

stop or restart the real-time log display, empty the page of displayed logs, and finally download the system logs of the last 3 days.
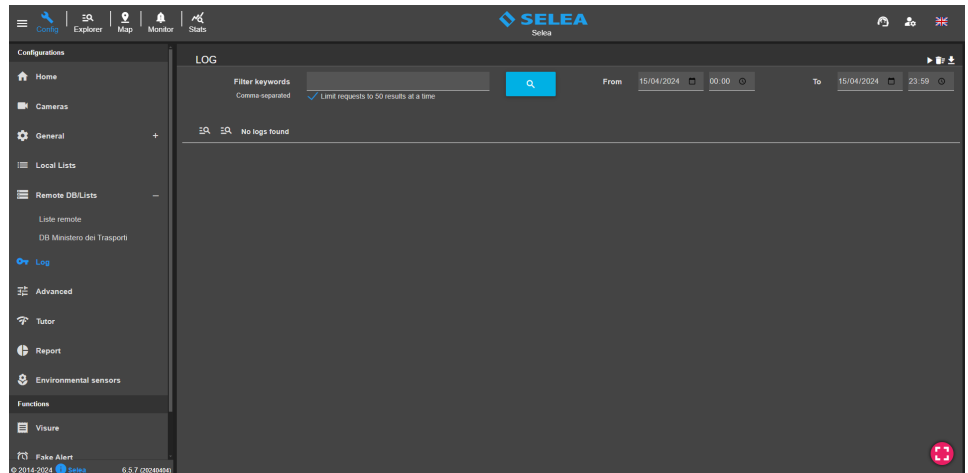
It is possible to show the log for a period of interest.

It is possible to filter the logs by **Type** (**Debug**, **Info, Warning, Error**) and by **Origin** (**Generics, FTP, HTTP, Alert Server, VPN, Config changed, Import CSV, Export PDF, Export CSV, Export Images, Massive export images, Massive export CSV, Searches, Statistics, Visure, Action, Autoupdate, Backup DB, Bando Regione Lombardia, Report, Delete DB, Delete log, Manager connections, Active directory, Web license, DB ram cache, Log metadata, Cache statistics, Ministero trasporti, SeleaCPS(BOT) update data, Capture external context and User actions**) by clicking on the relevant buttons and selecting the various options of interest.

Use the **Filter Keywords** field to search for one or more **keywords** within the log file.

ADVANCED

In this section, it is possible to make advanced configurations of CPS 6.5.
the section is divided into seven submenus: *Forwarding notifications - Notifier forwarding server - Backup server - Database settings - Gates name - Match with local lists - Installer.*

FORWARDING NOTIFICATIONS

Usually, this section is never changed and is used by the CPS to forward notifications about detected transits to the various clients (CPS Monitor). **Enables notification/alert forwarding server** should be kept normally activated with the **Local server port** 5666 to prevent the various clients from ceasing to receive notifications from the CPS. In the **Access list without authentication** field, you can set the IP addresses of the servers to which the CPS will send notifications via the local server port.
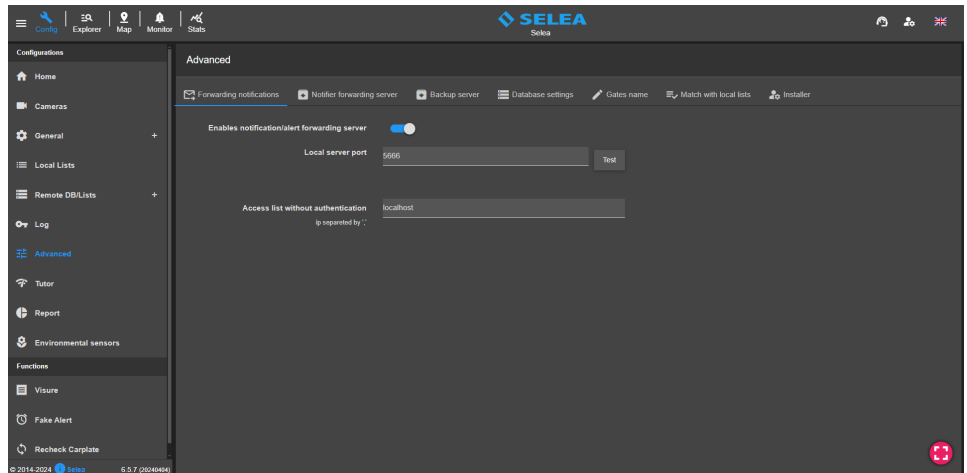
NOTIFIER FORWARDING SERVER

In this section, you can define one or more HTTP/TCP servers to send transit notifications.
To do this, it is necessary to click on the **Add server** button and configure the remote server to which a customizable template can be sent.
By enabling the **Save TCP sending errors for next attempt** function, you can keep the notifications that the CPS failed to send for "n" days by enabling the function **Delete notifications older than "n" days**. Saved notifications will be sent to the remote server when the connection is restored.
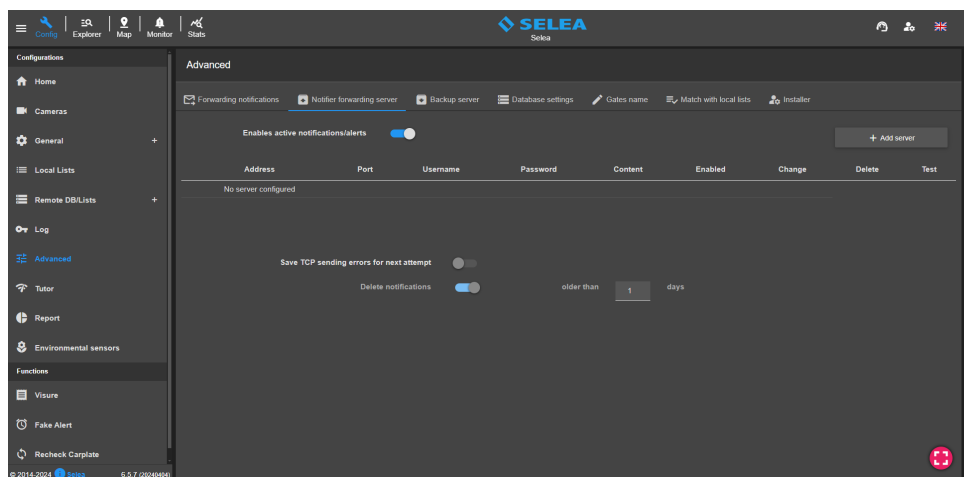
BACKUP SERVER

In this section, you can define one or more remote FTP servers (even non-CPS) to which you can send FTP notifications of transits detected by the CPS. To do this, click the **Add server** button and configure the remote FTP server.
By enabling the **Save FTP sending errors for later attempt** function, you can keep the notifications that the CPS failed to send for "n" days by enabling the function **Delete notifications older than "n" days**. Saved notifications will be sent to the remote server when the connection is restored.
By enabling **Use secure connection FTPS**, the CPS will send notifications with the FTPS protocol.
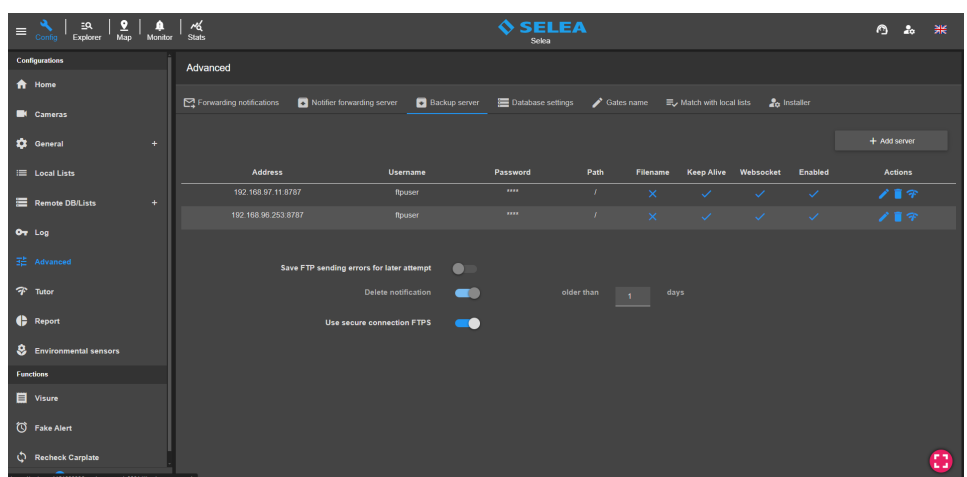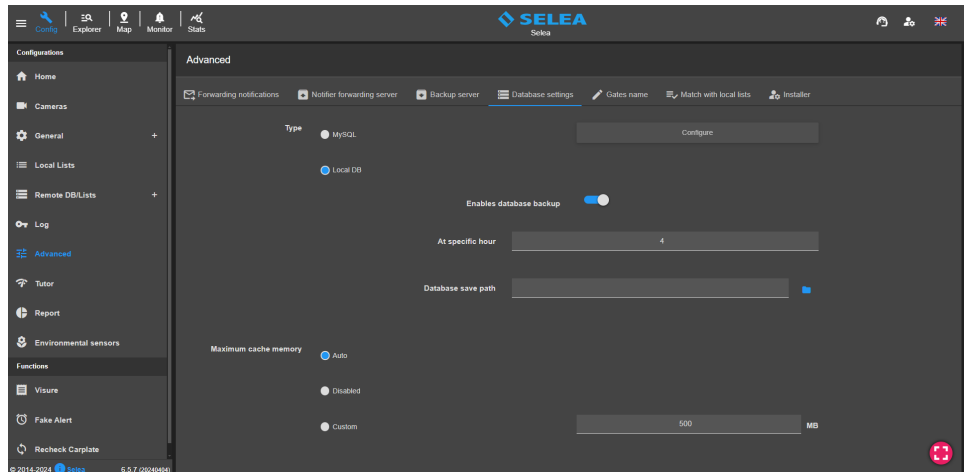
DATABASE SETTINGS

In this section, you can choose the **Type** of database used by the CPS (**MySQL** or **Local DB**).
By default, local DB is selected, which does not require any configuration by the user, while if you want to use a MySQL DB, you will need to configure it by clicking on the **Configure** button.
By activating the **Enable database backup** function, you can set the DB to back up automatically by entering the **specific hour** the backup will be made and setting the **Database save path**.
From the **Maximum cache memory** field, it is possible to set the maximum cache size so that when the CPS service starts, part of the database is loaded directly into RAM to speed up searches within it. There are 3 selectable options: **Auto**(default), **Disabled**, and lastly **Custom**, allowing us to size the dedicated cache to our liking.

GATES NAME

In this section, you can rename the cameras connected to the CPS.

This procedure will replace the gate's name with the new name on all transits saved in the database.
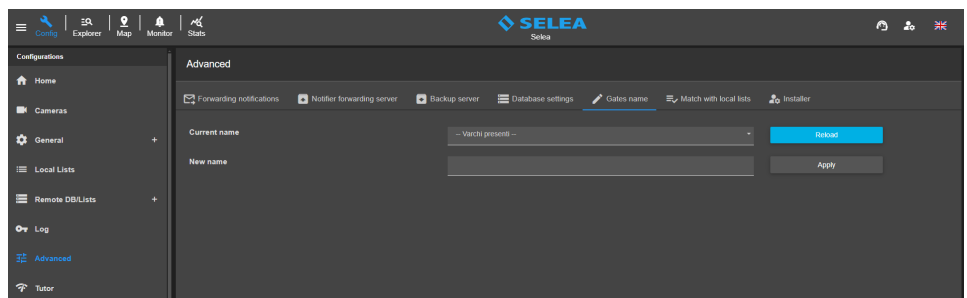
MATCH WITH LOCAL LISTS

In this section, it is possible to enable settings to match license plates received from cameras and license plates entered in local lists defined within our CPS.

- **Allow only exact match**: considers only those transits containing the license plates entered in the lists. However, activating the **Tolerate an additional character at the beginning or end** enables plate matching in case a read error occurs where a character is added to the beginning or end.

- **Tolerate incorrect characters**: unlike the previous function, this function enables license plate matching by tolerating any erroneous characters, including characters replaced by ~.
In this case, in addition to being able to enable the function **Tolerate an additional character at the beginning or end**, there is also the function **Consider the characters [0, O, D] [1, I] [8, B] as alternative**.
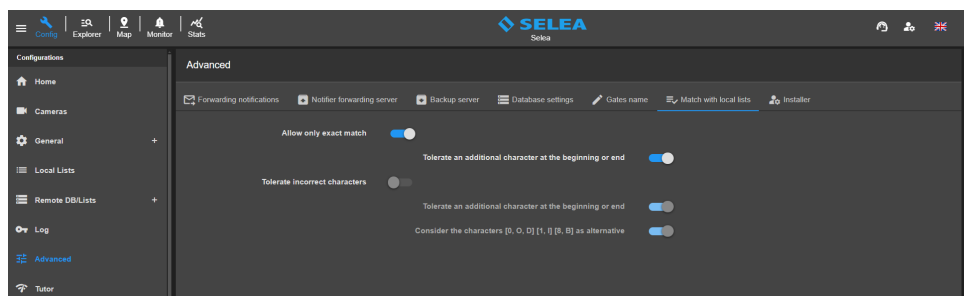
INSTALLER

In this section, you can enter information about the system integrator and the location of the system.
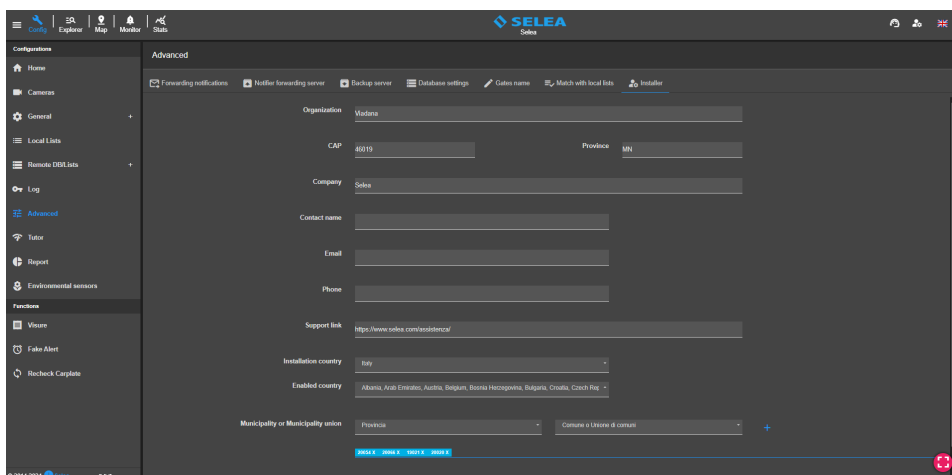
In this section we will analyze the fields that have actual CPS functionality.

The **Support link** field allows to customize the assistance button found in the CPS 6.5 header:

If you click the button, you will be directed to the link you enter on a new browser tab.
If you do not enter anything, you will be automatically directed to Selea's support platform.

Installation country: it allows to customize the CPS by displaying the available functions for the selected country.
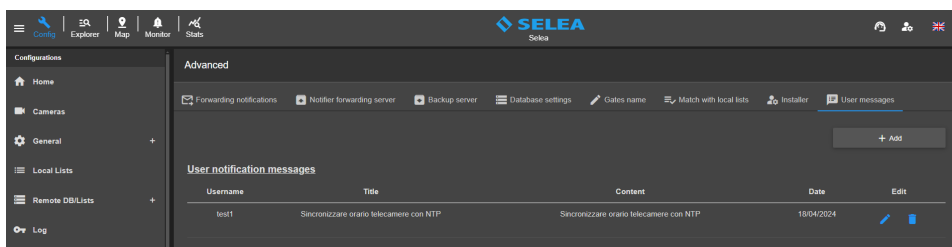
Enabled country: it allows to select all the nationalities of the license plates that the CPS will be able to recognize.

Municipality or Municipality union: it allows to select the municipalities that will be highlighted in the Map section.

USER MESSAGES

In this section it is possible to create reminder messages that will appear to specific users during login.

It is possible to view the list of currently active messages with the option of modifying or deleting them.
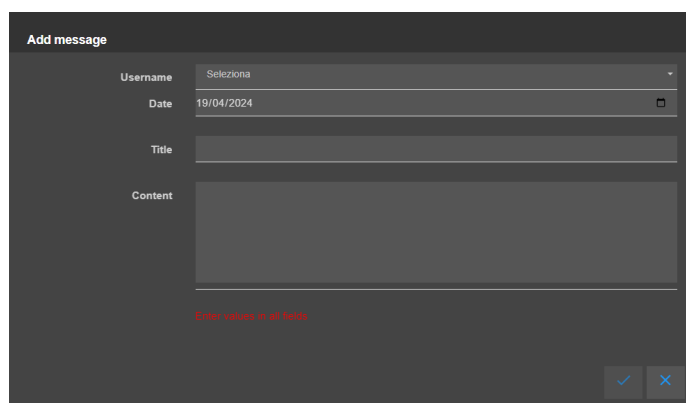
To add a new message it's necessary to click the "**Add**" button which will bring up the following window.

It is necessary to select the user who will receive the reminder, set the date on which the message will be shown to the user and enter the title and content of the message.

When the user logs in to the system, the messages scheduled for that date will appear and he will not be able to complete the login until he manages the messages.

The user can delete the message or decide to view it later.

TUTOR

In this section, it is possible to configure a **Tutor** system for detecting the average transit speed of vehicles on a section of road bounded by two gates.

A free Plug-in must be installed on the CPS 6.5 to enable this section.

Contact Selea Support for installation.

Clicking on **Add path** will bring up the window that will allow the creation of a route for the Tutor system.
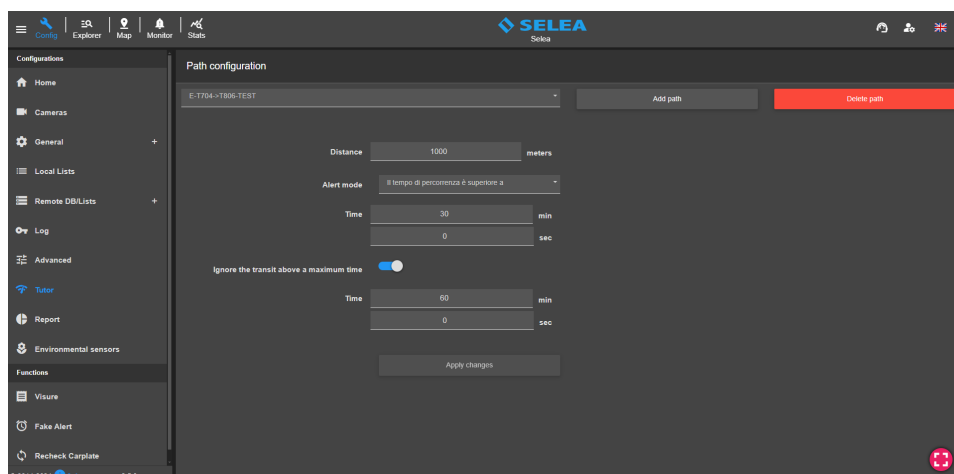
It is necessary to select an **Entrance gate** and an **Exit gate** from the drop-down menus provided and indicate the **Distance** (meters) between the two gates. The minimum distance that can be set is 100 meters.

Through the **Alert Mode** field is possible to set the condition that generates the alarms.

The available **Alert Modes** are as follows:

- **Disabled**: tutor function not active.

- **Always**: creates an alarm at every transit regardless of the detected speed.

- **Speed is greater than**: creates an alarm when the average speed set in the **Speed** field is exceeded.

- **Travel time is less than**: creates an alarm when the travel time is less than "n" minutes/seconds set in the **Time** field.

- **Travel time is greater than**: creates an alarm when the travel time exceeds "n" minutes/seconds set in the **Time** field.

If the **Alert mode** is not disabled, you can enable the function **Ignore the transit above a maximum time** of "n" minutes/ seconds that can be set in the **Time** field.

To apply the changes made to one of the entered paths, it is necessary to click on the **Apply changes** button, while to delete one of the already entered paths from the list, it is necessary to click on the **Delete path** button after selecting it from the list.
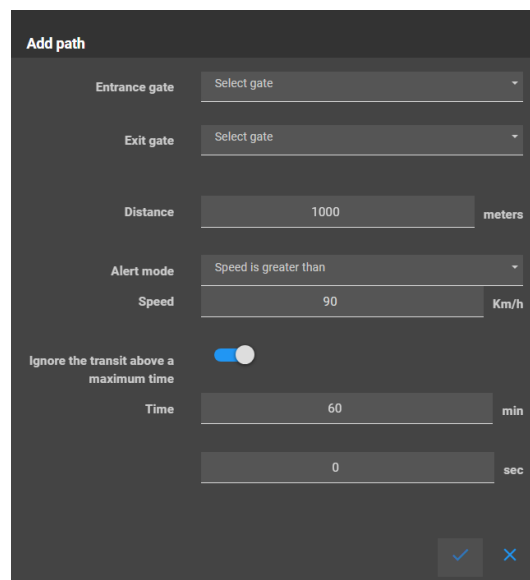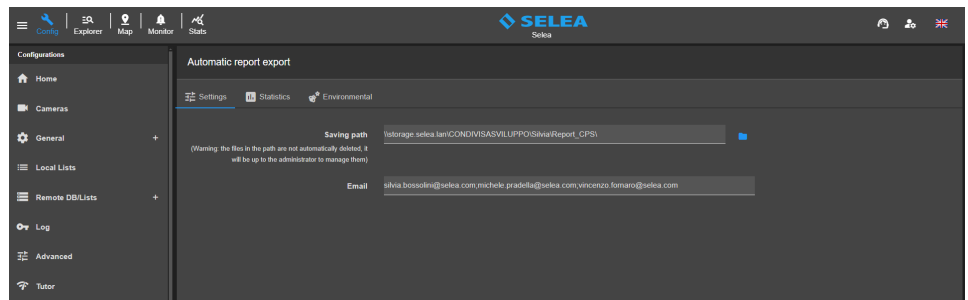
REPORT

In this section it is possible to enable the automatic export of reports in CSV format.
The section is divided into three submenus: **Settings** - **Statistics** - **Environmental**.

SETTINGS

In this section, you can select a **Saving Path** where the CPS will save reports automatically and one or more **Email** on which to receive reports.
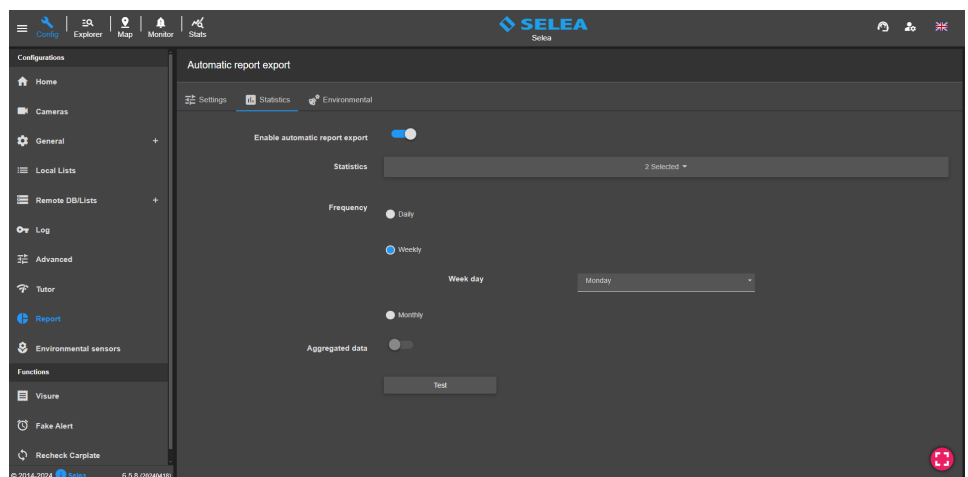

STATISTICS

The **Enable automatic report export** flag must be enabled to download statistics.

You can select the statistics you wish to export from the **Statistics** drop-down menu.

You must select the **Frequency** of exporting reports.
The options present are:

- **Daily**: statistics will be exported daily.

- **Weekly**: weekly statistics will be exported on the day of the week selected from the **Week day** field.

- **Monthly**: monthly statistics will be exported on the first day of the following month.

Enabling the **Aggregated Data** function will generate the aggregated statistics of all selected cameras in a single file; otherwise, it will be generated a file with the statistics of interest for each gate.

Using the **Test** button, you can test the export of reports to confirm that everything is configured correctly.

ENVIRONMENTAL

If the CPS has active CPSInfo or MEM licenses, it is possible to manage Bando Lombardia, so we will be able to configure this section set up to automatically generate the monthly statistics required by the Lombardy region, in particular those of the flows and environmental classes of vehicles transited by the gates.

First, we need to ensure that automatic report export is enabled in the **Settings** section and set a save path and the E-mail address that should receive the statistics.

You must enter the **ISTAT Code** of the municipality in the provided field that will be used to correctly generate the two desired CSV files that will be named as required by the region:
Municipality ISTAT Code-classes.csv and Municipality ISTAT Code-flows.csv.
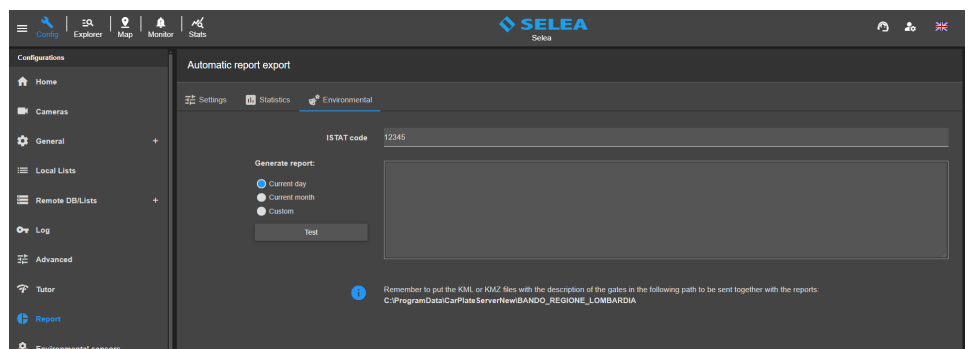
To complete the configuration to send all data as required, it will be necessary to enter the **KMZ** or **KML** file of all sites present so that they can be sent mon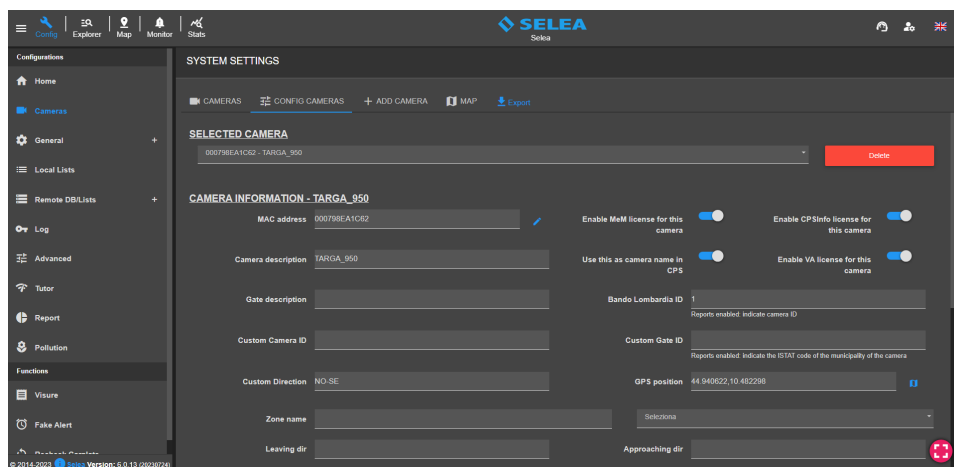thly along with the reports, these should be named Istat Code-siti.kmz or Istat Code-siti.kml, generated with Google Earth and saved in the path: C:\ProgramData\CarPlateServer\BANDO_REGIONE_LOMBARDIA. The KML or KMZ files will have to be made by the municipality.

Among the data required in the CSV files to be generated are two parameters that we will need to go to the camera configuration as in the example below:

Bando Lombardia ID represents the **Site Numbering** required by the region, so you will need to assign the cameras a numbering from 1 to "n" (n = number of cameras).

Custom Direction represents the Detected Flow Direction entry, which will need to be expressed in cardinal points. Example: NO-SE to indicate that the traffic flow in that gateway follows the Northwest - Southeast direction.

In the case of CPS used by a union of municipalities, it is necessary to create the KML or KMZ file for each municipality. In this case, you need to specify the ISTAT code of the municipality directly in the **Custom Gate ID** in the configuration page of the cameras belonging to the specific municipality.

Click on the **Test** button to verify the correct generation of CSV files and the correct sending to the E-mail addresses configured in Settings.

N.B. The transit DB must have a deletion duration of old data of at least 31 days; otherwise, the generated statistical data will be incomplete.

ENVIRONMENTAL SENSORS

Pollution alarms configuration

In this section, it is possible to enable Email notifications to report the exceeding of the set thresholds of PM10 and PM2.5 parameters detected by the air quality sensors to be present on the Selea cameras.

To use this function, it is necessary to enable the **Enable Notifications** flag and set the threshold limits of the PM10 and PM2.5 parameters.

Finally, it is necessary to enter in the Email field one or more addresses on which you want to receive the notifications.
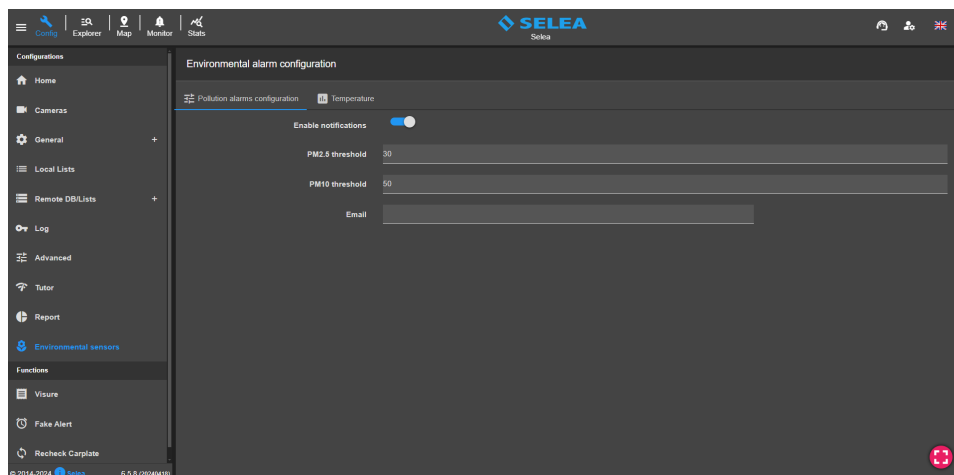
Temperature

In this section, it is possible to enable the sending of Email and Telegram notifications to report any temperature and humidity values detected by the cameras below the minimum thresholds or above the maximum limits set.

To use this function, it is necessary to activate the **Enable notifications** flag and enter the recipient **Email recipients** and **Telegram IDs** that will receive any alerts. Finally, it is necessary to enter the minimum and maximum temperature and humidity thresholds in the respective fields.
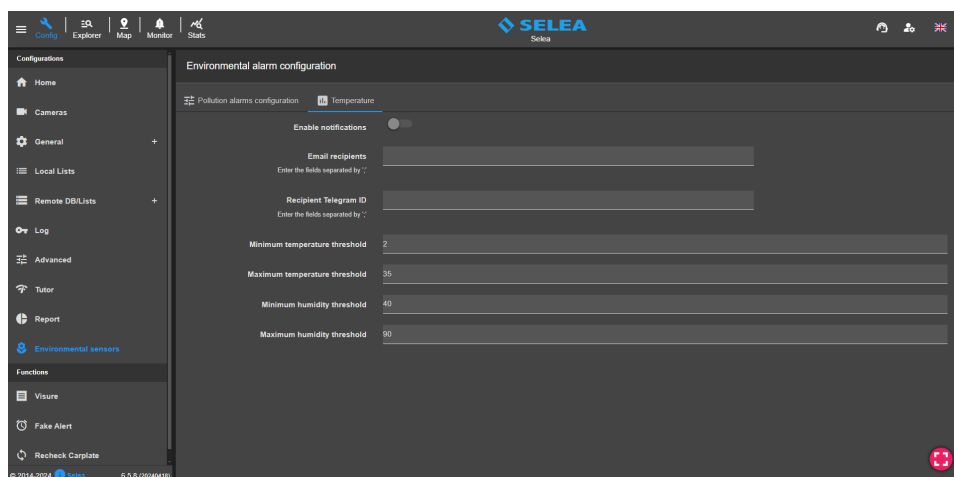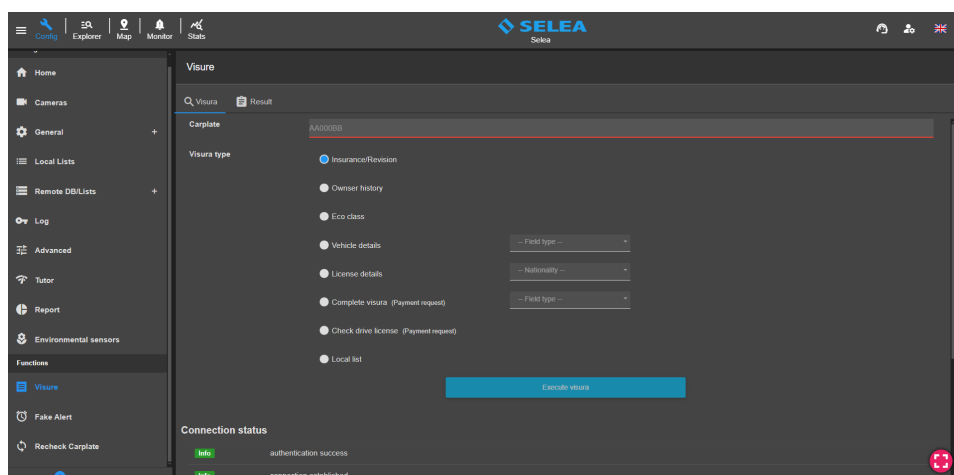
VISURE

Enter the license plate to be inspected in the **Carplate** field, select the **Visura Type**, and press the **Execute Visura** button.

If the visura is successful, the outcome is shown in the **Result** section.

Connection to the **Ministry of Transportation DB** is required.

FAKE ALERT

In this section it is possible to define false alarms for specific license plates, so they are no longer reported in future transits until a specific expiring date.

Enter the license plate in the **Carplate** field, select the **Fake alarm type**, enter the **Expiration datetime**, and press the **Set fake alert** button.
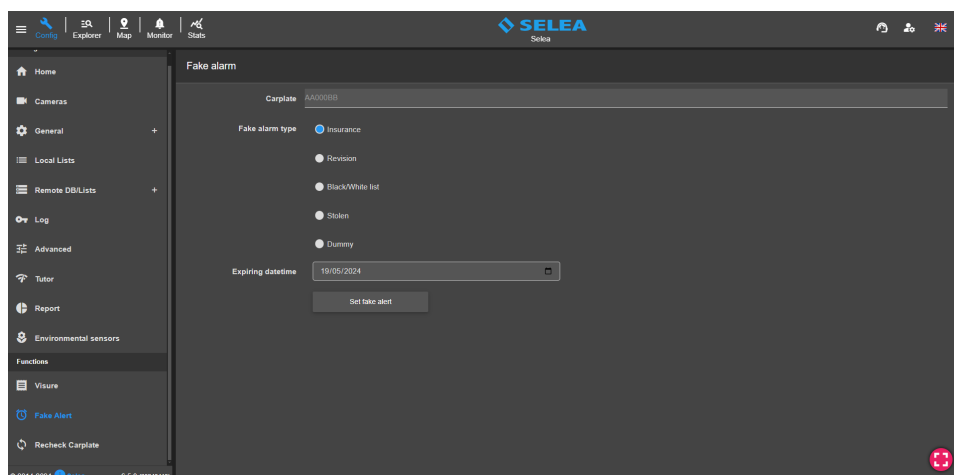
RECHECK CARPLATE

From this section, it is possible to perform a recheck on previous transits by re-querying the Ministry of Transportation DB for each license plate transited in the specified time interval. The usefulness of this function is to be able to recheck the transits in a period when the server connection to the Ministry of Transportation was down (due to no Internet connectivity or no connection to the Ministry's VPN).

Just set the start date/time and end date/time and click on the **Recheck** button.
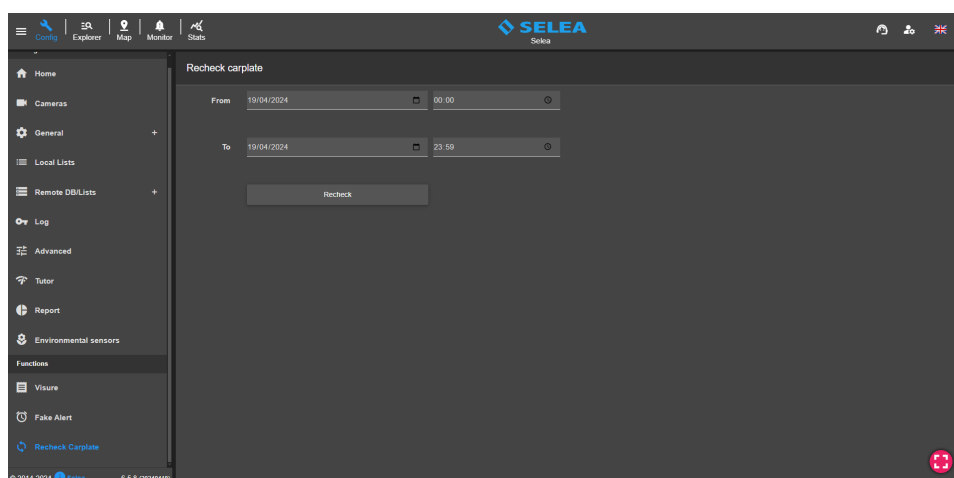
EXPLORER

In this section, it is possible to perform license plate searches for investigative purposes with the ability to simplify searches by applying multiple filters and export transits of interest in one of the available formats.

Below, we will describe and analyze the various features available.

PARAMETERS

All search parameters and filters are available in this section.

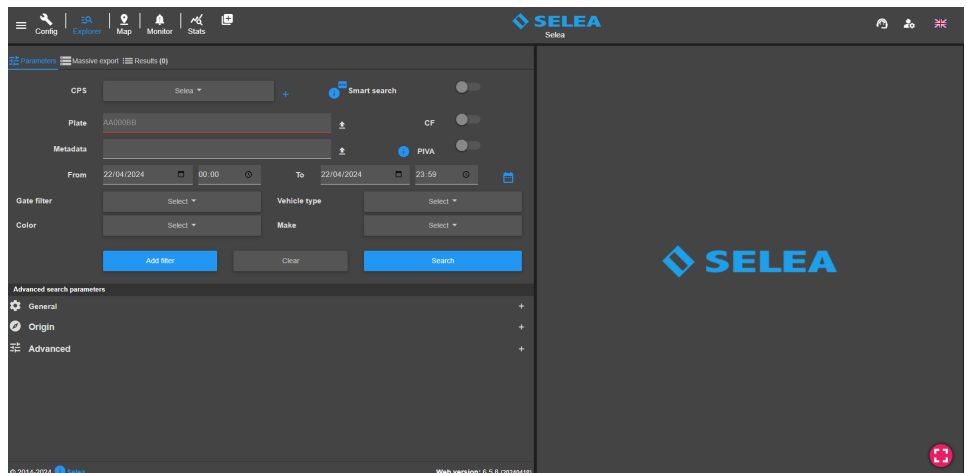In addition to searching for license plates on your local CPS (**Local Service**), you can query remote CPSs to which you have access data.
From the **CPS** entry, you must select the CPSs to be queried.

To add a remote CPS, it is necessary to click on the + button

and enter the **NEW SERVER** data in the window that appears.
In the **id/IP:port** field, you must enter the License ID of the remote CPS if you intend to use the Selea Connect service or the IP:port for a direct connection.
In the **Name** field, you need to enter the name under which the remote CPS will be displayed on your local CPS.
Finally, you must enter the **Username** and **Password** of an existing HTTP user on the remote CPS and click on the + button in the lower right corner to permanently add it to the list of available CPS Servers.
This procedure will also allow the cameras of the remote CPS to be displayed in the Map section of the local CPS.
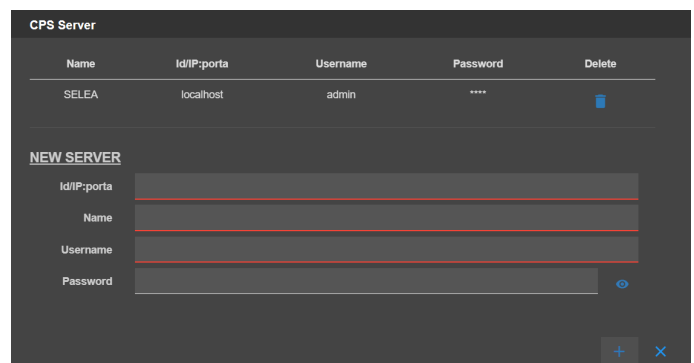
In the **Plate** field, you can enter one or more license plates (separated by a comma) to be searched.
If you do not have the complete license plate, you can search for it by replacing the missing parts with the "*" symbol(examples: AB* if I know only the beginning of the license plate, *CD if I know only the end, AB*CD if I do not know the middle part) or with the symbol "?" if any character is missing (example: AB123C? if you don't know the last letter, ??????? if you want all 7-character license plates). The "#" symbol can be used if the missing character must be a number and the "@" symbol can be used if the missing character must a letter.
You can also upload a file (csv, txt) of license plates to be searched by clicking the upload button.

Enabling **Smart search** considers similar characters O and 0, B and 8, I and 1.

By enabling the **CF** flag, only transits for which the tax code has been detected via the MCTC are searched.

By enabling the **PIVA** flag, only transits for which the VAT number has been detected via the MCTC are searched.

In the **Metadata** field, it is possible to enter information based on the data that are collected in the CPS, such as the tax codes of vehicle owners or loaners, first and last name of the owner or company that owns the vehicle, Residential address (street name or municipality of residence), municipality of birth, vehicle make and model, etc.

In the **From** Date/Time and **To** Date/Time fields, you must enter the time interval you want to search.

To perform a multi-day search for a particular time slot, you can set the desired time slot by clicking on the calendar symbol.

Standard filters also include the following:

Gate filter: select one or more gates. If no gate is selected, searches will be performed on all cameras connected to the system.

Gate filter	Select ▾	Vehicle type	Select ▾
Color	Select ▾	Make	Select ▾

Vehicle type: select the type of vehicle (car, truck, van, motorcycle, etc...) to be searched.
Requires cameras with onboard **Video Analysis** or **Plugin Type and Color** on the CPS.

Color: select the color of the vehicles to be searched.
Requires cameras with onboard **Video Analysis** or **Plugin Type and Color** on the CPS.

Make: select the brand of vehicles to be searched.
Requires cameras with onboard **Video Analysis** or **MEM Plugin** on the CPS.

By using the **Add Filter** button, it is possible to cross-search different filter compositions.
For example, if you want to search for a license plate on two different dates, you can set the first date, click Add Filter, then set the second date of interest, and click the button again.

The **Clear** button allows you to reset all the filters you have set.

Add filter	Clear	Search

The **Search** button allows you to query the DB taking into consideration the filters you set, and then provide us with the search results.

Advanced search parameters

In addition to the basic filters, additional advanced filters are available and are divided into 3 main categories: **General, Origin,** and **Advanced**.

The following filters are available in the **General** section:

Local Lists: search for license plates reported from the white lists, black lists or NO LIST.

Remote alert: search for license plates reported by insurance and inspection expired, radiated plates, etc...

OCR type: search by license plate type: standard, kemler or container.

Dangerous goods: search for Kemler license plates by dangerous goods identification code.

Direction: search for license plates based on the direction (approaching or away) of transit relative to the gate.

Advanced search parameters	
⚙ General	—
Local list	Select ▾
Remote alert	Select ▾
OCR type	Select ▾
Dangerous goods	Select ▾
Direction	Select ▾

The following filters are available in the **Origin** section:

Include country: search for license plates of the selected nationalities.

Exclude country: exclude license plates of the selected nationalities from the search.

Include province: search for license plates of the selected italian provinces.

Exclude province: exclude license plates of the selected italian provinces from the search.

Advanced search parameters	
⚙ General	+
⊘ Origin	—
Include country	Select ▾
Exclude country	Select ▾
Include province	Select ▾
Exclude province	Select ▾

The following filters are available in the **Advanced** section:

Minimum occurrences: search for license plates transited at least "n" times in the set time interval.

Maximum occurrences: search for license plates that have passed at most "n" times in the set time interval.

Search for complicit: this function requires entering a license plate that, for example, committed a crime and allows searching for any accomplices that passed "n" minutes/seconds before or after.

Search for stalkers: this function requires entering a license plate of a stalking victim and allows searching for any stalkers who passed "n" minutes/seconds before or after.

Plate permutations: this function allows you to search for all the possible permutations of the characters of the plate entered in the Plate field.

Distinct plates: allows only one transit for each license plate to be displayed in the search results, even if it transited multiple times in the set time interval.

Multiple search: search for license plates that have passed through at least "n" gates or "n" zones in the set time interval (Zones are assignable to cameras in the Cameras section in the Config).
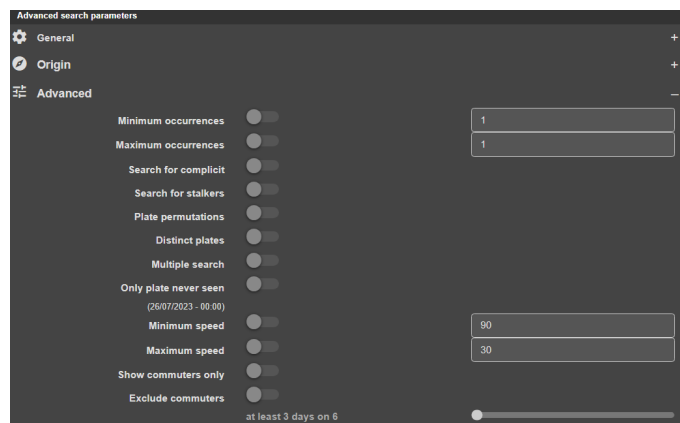
Only plate never seen: search for all plates that have never passed through the system's gates before.

Minimum speed: search for all license plates of vehicles that have passed at a higher speed than the set one.

Maximum speed: search for all license plates of vehicles transited at a lower speed than the set one.

Show commuters only: search only the license plates of commuters on at least "n" days out of 6.

Exclude commuters: allows commuters on at least "n" days out of 6 to be excluded from the search.

MASSIVE EXPORT

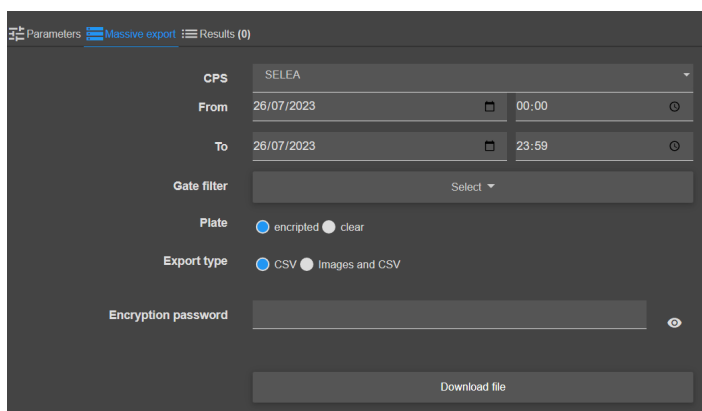This section makes it possible to perform massive exports of transits without any prior searching.
This type of export can be useful when there is a need to export all transits that occurred in a given period.

In order to proceed with the export, it is first necessary to select the CPSs from which to export transits, specify the search time interval, and select the gates of interest from the Gate Filter.

From the **Plate** field, it is possible to select whether to keep license plates unencrypted or encrypted.

From the **Export Type** field, you can select whether to export only a **CSV** file or **Images and CSV**.

In the **Encryption Password** field, you can enter the password required to open the zip file generated and downloaded by clicking the **Download file** button.
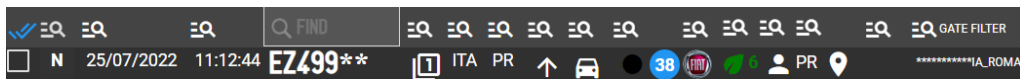
RESULTS

The search results section is displayed in the following example:

In the left part of the screen, we find the list of license plates found in the DB as a result of the search made, while in the right part, it is possible to view images and information related to the selected transit.

For each transit, the following information is shown

which are respectively: **the membership list, date of transit, time of transit, license plate, occurrences, nationality of the license plate, province of residence of the owner, direction, vehicle type, vehicle color, estimated speed, vehicle make and model, environmental class, owner's full name, province of birth of the owner, GPS coordinates of the transit, and finally the gate that read the license plate.**

When reading a **Kemler** code, the symbol of the transported dangerous goods is also shown.

A window appears by clicking on the quick filter button above each column, as in the example opposite, from which one or more options can be selected to filter the search results further.

Above the License Plate column is a search field from which you can search for a license plate or portion of a license plate within the search results.
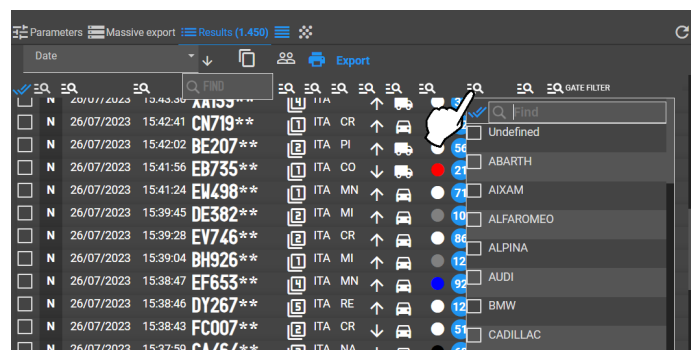
Right-clicking on any transit brings up the following window that provides the following functions:

List of the 10 most recent transits: view the last 10 transits of the license plate.
**Search all transits for this license plate**: search all transits of the license plate saved in the DB.
Edit transit: permanently edit the license plate saved in the DB (function to be used in case of read error by the OCR camera).
**Delete transits**: permanently delete the selected transit from the DB.
Add transit to list: quickly add the license plate to one of the enabled local lists from Explorer.
**Manual visure**: perform a manual query of the selected license plate to the MCTC server.
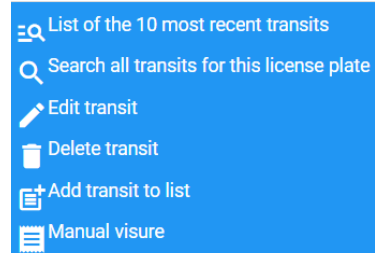
The following buttons allow you to copy the license plates in the search results to the windows clipboard and copy all owner codes.
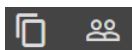
To make a full or partial **EXPORT** of the search results, it is necessary to select the transits of interest (if nothing is selected, all transits in the search results will be selected) and click on the **Export** button.
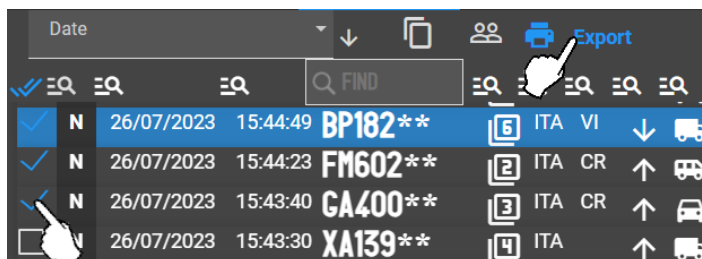
The export window appears as in the example below.

It is possible to export transits in three different formats:

CSV FILE: allows to customize the CSV file to be exported by changing the order of the data and selecting the data of interest to be included in the CSV, and finally, you can change the **Name in the CSV** of the various fields by clicking on the name to be replaced and entering the desired name.
It is possible to export the **Date and Time** field in two different formats:
ISO8601 standard format 2018-02-14T15:46:29
Date and time format 14/02/2018 15:46:29:342.
By selecting the Date and Time Format, you can enable the **Separate Date and Time** feature that allows you to have the date and time on two different columns in the CSV file.
You can also enable the **Add explicit UTF8 marker (BOM)** function if it is required by the application to which you want to upload the generated CSV files.
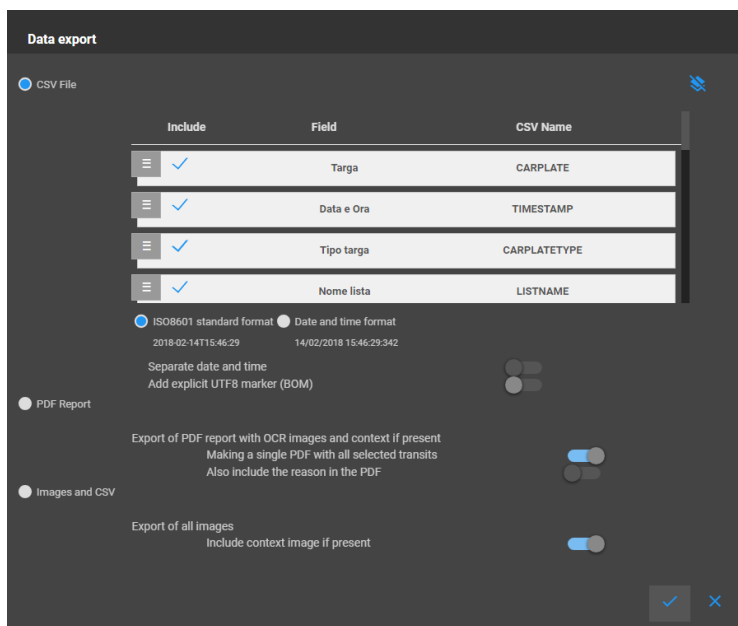
PDF REPORT: allows to export a PDF containing the images and metadata related to the selected transits.
By disabling the **Making a single PDF with all selected transits**, a PDF file will be generated for each transit selected.
By enabling the **Also include the reason in the PDF**, the reason for blacklisting the license plates, if present, will also be included in the PDF.

IMAGES AND CSV: allows to export images of the selected transits, a standard CSV file and a second CSV file in the Maggioli format. To export the context images of the transits as well, it is necessary to enable the function **Include context images if present**. In the **Encryption Password** field, you can enter a password required to open the zip file to be generated and downloaded.

MAP

In this section, you can access a comprehensive display of the precise locations of all interconnected clients and cameras within the system, each mapped out on Google Maps based on their assigned GPS coordinates.

MAP

Within the Map, cameras are displayed in green if they are connected correctly, in yellow if they have some type of error or in red if they are disconnected/off.

The map also displays clients with enabled CPS Monitor and active GPS.

Clicking on a camera symbol will bring up a pop-up showing a real-time snapshot of the camera.
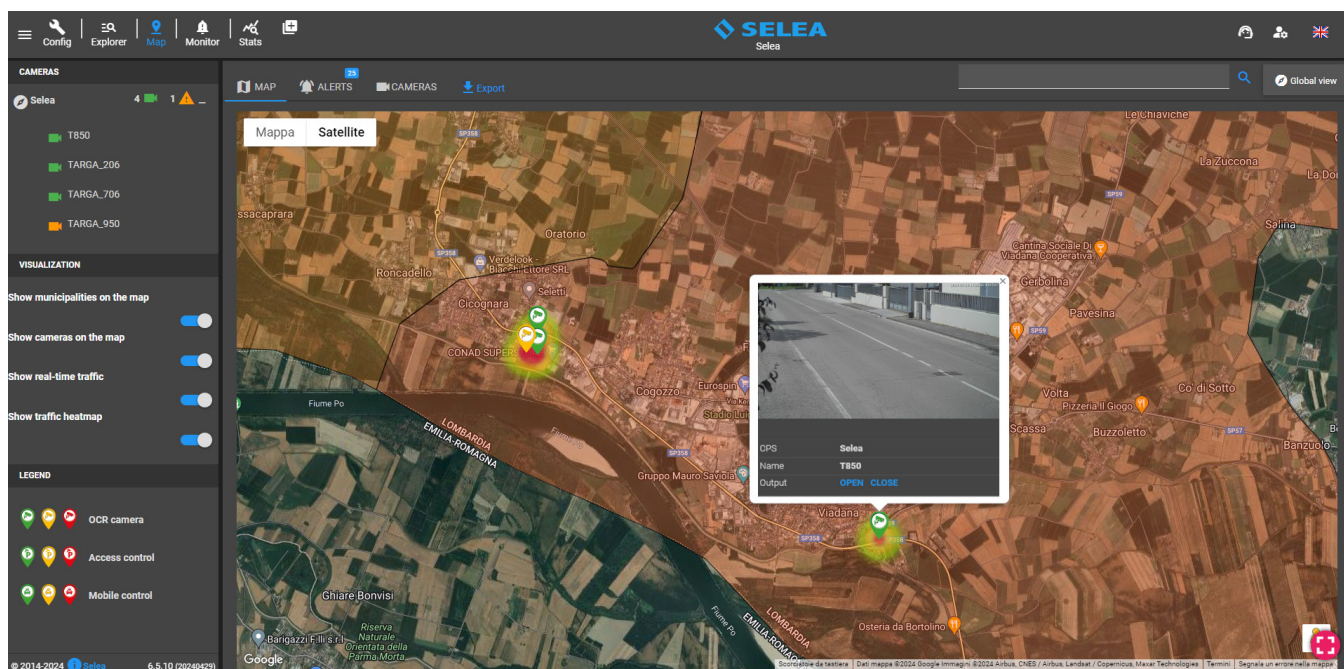
The sidebar displays the list of cameras on the map, a legend explaining the meaning of the icons that may appear on the map, and the following **viewing** functions:

Show municipalities on the map: allows you to highlight on the map the municipalities selected in "**Config/Advanced/Installer/Municipalities or Municipality union**".

Show cameras on the map: allows you to show cameras on the map.

Show real-time traffic: allows you to show a traffic intensity indicator for the last 15 minutes for each camera on the map. The indicator provides immediate feedback on the traffic status through the color which varies from blue to red with an intermediate purple color. The redder the indicator, the more intense the traffic, while if the indicator is purple or blue it means that the traffic is light or very scarce.

Show traffic heatmap: allows you to show a traffic intensity indicator for the last two hours for each camera on the map. The indicator provides immediate feedback on the traffic status through the color which varies from green to red with an intermediate yellow color. The redder the indicator, the more intense the traffic, while if the indicator is yellow or green it means that the traffic is light or very scarce.

ALERTS

This section provides an immediate view of the events detected by the cameras.

Upon detection of a vehicle on the black list or without insurance or inspection, a pop-up appears on the reference camera showing the image of the transit, the list from which the alarm came, the vehicle's license plate, the name of the camera and finally the date and time of transit.
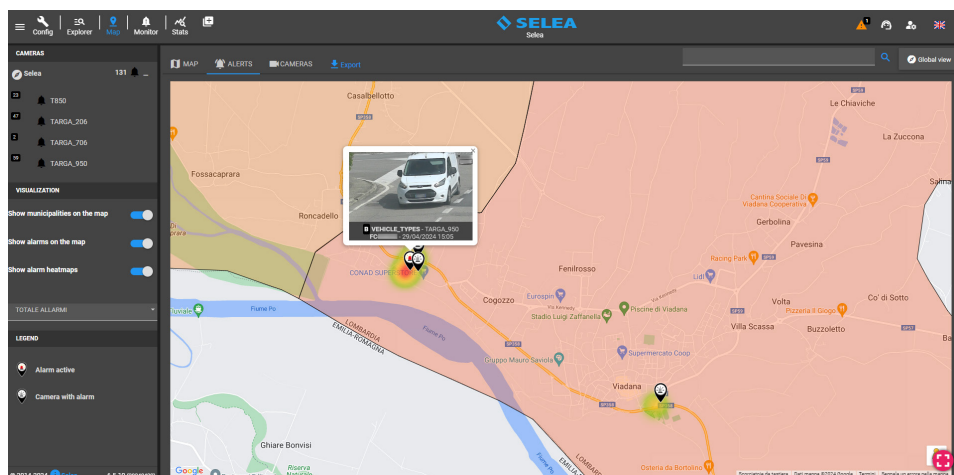
It is possible to view the latest alarm detected by a camera by clicking on the relevant symbol.

The sidebar shows the total number of alarms received since the opening of the MAP section and the number of alarms detected by each single camera divided by type (black list, expired insurance, expired inspection).

The sidebar also features the following **viewing** functions:

Show municipalities on the map: allows you to show the municipalities on the map.

**Show alarms on the map**: allows you to show alarms on the map.

Show alarm heatmaps: allows you to show an indicator of the intensity of the alarms for the entire day for each individual camera. The indicator provides immediate feedback through the color which varies from green to red with an intermediate yellow color. The redder the indicator, the higher the number of alarms, while if the indicator is yellow or green it means that the number of alarms is low.

It is possible to view all types of alarms detected or select only the type of interest from the available options (black list, expired insurance, expired inspection).

CAMERAS

In this section you can view real-time snapshot previews of the cameras.

Snapshots are periodically updated every 5 seconds to allow real-time road traffic monitoring.
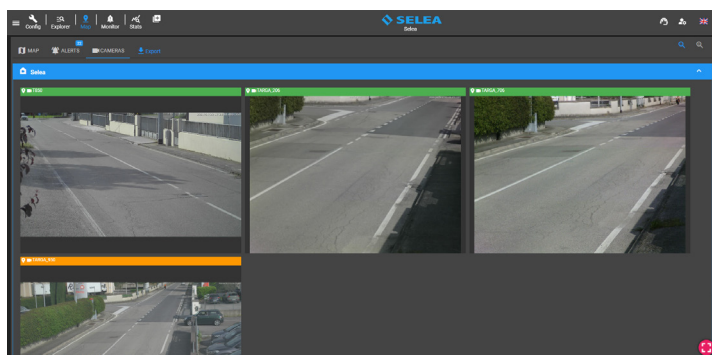
Clicking the **Export** button generates and downloads a CSV file containing the list of cameras connected to the system with the relevant information.

MONITOR

In this section it is possible to receive real-time license plate alerts reported by local or remote lists.
The section is divided into three main sub-sections: **Alerts, Setup, and Visure**.

ALERTS

In this section, you can activate the Monitor by clicking the **Start** button.

On the left side, you can see the list of reported license plates from the local and remote lists, while on the right side, you can see the number of **Transits** and **Alerts** since the Monitor started and the log of incoming license plates.
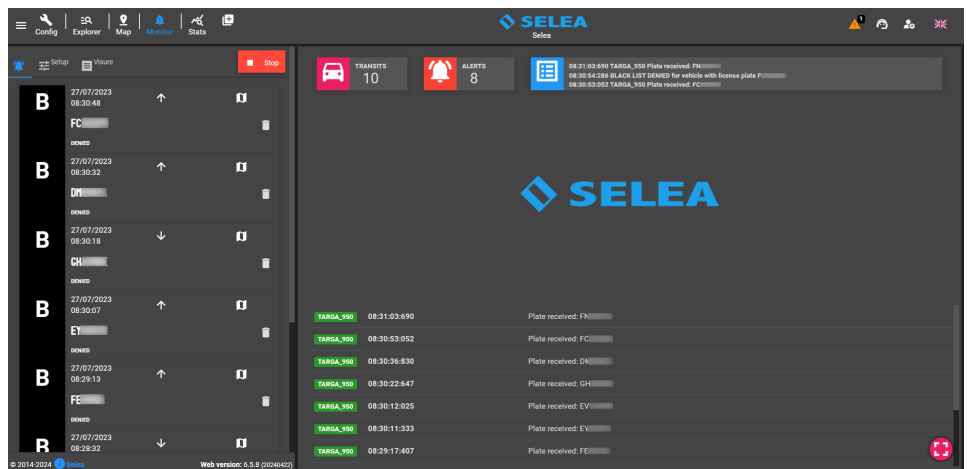
In case of a report of a transited license plate, an Alarm window appears, showing the transit images and all related information as in the example opposite.

You can also view the alert window by clicking on the alert among the list of reported license plates.
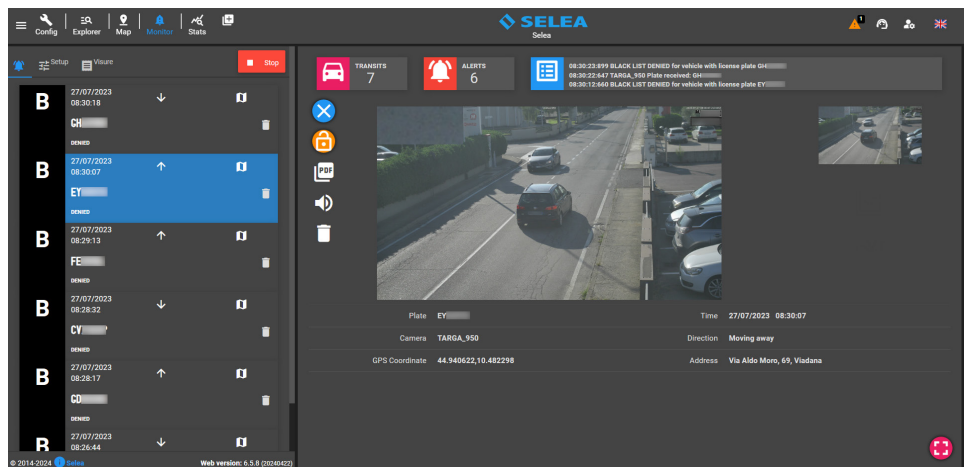
In the alarm window, the buttons appear alongside which respectively allow you to close the open window, fix the display of the window so that new incoming reports do not appear, export the PDF file of the transit which includes the images and the related information and listen to the voice alarm that pronounces the license plate and the reason for the report.
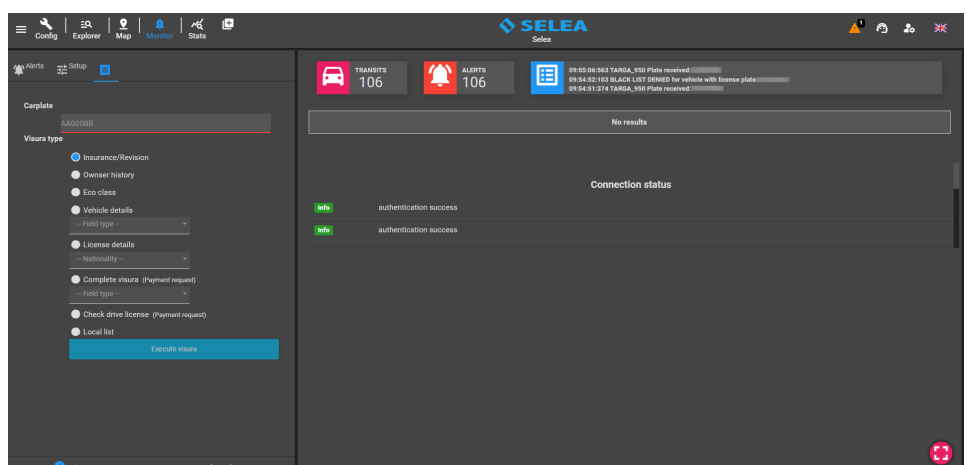

VISURE

In this section, you can perform various types of MCTC queries. Enter the license plate to be inspected in the Carplate field, select the Visura Type, and press the Execute Visura button.

If the view is successful, the outcome is shown in the opposite section.

Connection to the Ministry of Transportation DB is required.

SETUP

In this section, you can configure the Monitor as needed.
Below we will look at all the features that can be customized.

Start the service on opening:
allows to start the monitor when it opens.

Show foreground: allows alarms to be shown in the foreground when they arrive.

The remaining Monitor settings are divided into four categories:
Notifications, Context, Data management and Alert filter.
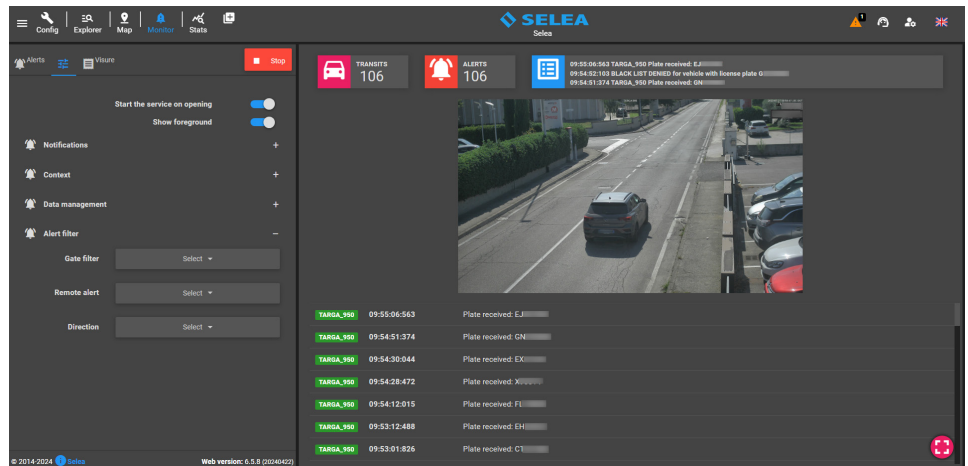
Notifications

Automatically lock new alert: allows to fix in the Alerts section the Alert window of new alerts.
Hide same alert: allows to ignore equal alarms in case a license plate is read two or more times by the same camera so that no more alarms arrive for the same transit.
Ignore late reports: allows to ignore alerts for all transits notified late to the CPS. You can quantify the delay by selecting one of the available options: 10 seconds, 30 seconds or 1 minute.
Play notice: allows to enable an audible alert when alarms are received. It is possible to set a simple sound or voice alert in which the license plate and the list that belongs to it are spelled out.
Use NATO alphabet: allows to enables spelling of the license plate using the NATO phonetic alphabet if voice alert is enabled.
Disable playback with foreground alert: allows to turn off sound/vocal alerts when a foreground alert is already open.
Show OCR detail on the OCR image: allows to display the license plate box in the upper left corner of the OCR image.

Context

Show OCR detail on context: allows to display the license plate box in the upper left corner of the context image.
Automatically request context image: allows to include the context image of the reported transit in the relevant Alert window.
Show context image first: allows the context image to be displayed as the main image in the Alert window of reported transits.

Data management

Remove alert on exit: allows to remove all alerts listed in the Alerts section on Exit from the Monitor section.
Days to keep: allows to keep the alerts of the last 'n' days.
Delete all alerts: allows to immediately delete the entire list of alarms in the Alerts section.

Alert filter

Gates filter: allows you to select one or more gates from which to receive alerts.
Remote alert: allows you to select the type of alerts you wish to receive.
Direction: allows you to select the direction of the transits of interest.

STATS

In this section, CPS statistics can be viewed and exported.
The statistics are divided into six categories that can be selected from the **Typology** section:

SYSTEM
This section contains system usage statistics: CPU, RAM, Disk, Queries, Plates per second, and Total plates.

TRANSITS
The following statistics are presented in this section:
Total transit, Single flow, Transit dangerous goods, Transit dangerous goods by type, Transit for nationality and Transited by province of origin.

ALARMS
This section contains the following statistics: Total alarms, Insurance, Revisions and Black list.

TRAFFIC
This section contains the following statistics: Origin Destination Flow, Speed estimation, Vehicle Type, Color estimation and Make/Model.

ENVIRONMENT
This section contains the following statistics: Euro Class, Fuel Type, PM2.5 values and PM10 values.

TUTOR
This section contains the following statistics: Average Speed, Average Time, Exceed Limit, and Path Flow. To get these statistics is necessary to enable the Tutor system from the Config section.
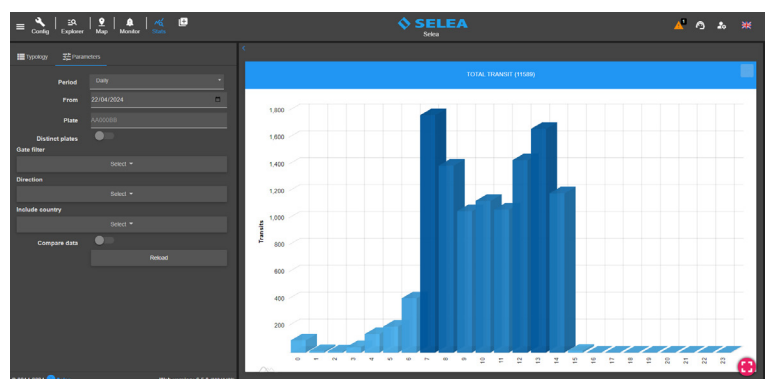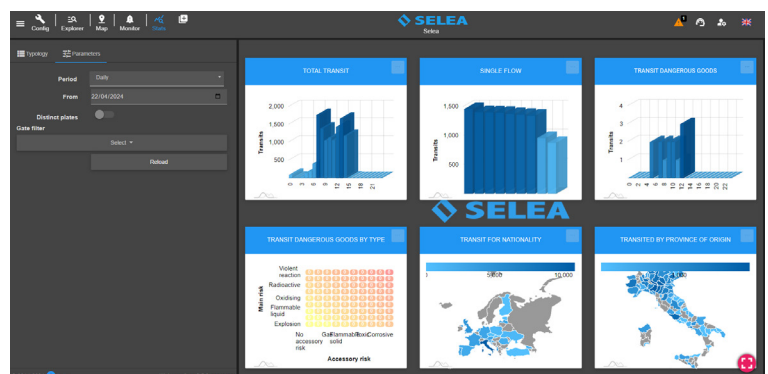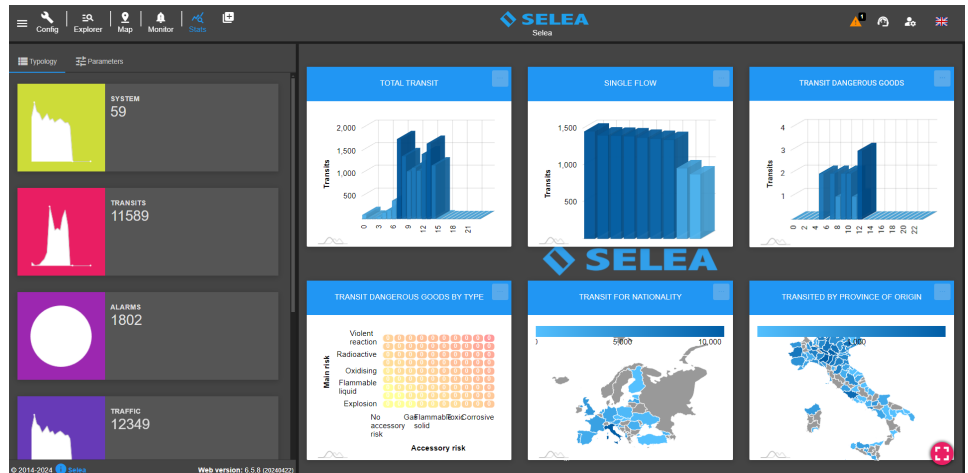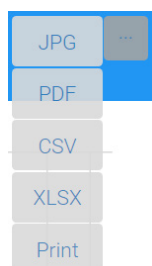
From the **Parameters** section, you can customize all the statistics of the displayed type.

You can set the **Period (daily, weekly, monthly)** starting **from** the day of interest and select the gates to calculate the various statistics from the **Gate filter**.
The **Distinct plates** function allows you to count plates one time even if they have passed multiple times.

Pressing the **Reload** button will recalculate the statistics based on the entered parameters.

Clicking on one of the available statistics will enlarge the box of the selected statistic and it will be possible to customize the specific parameters without modifying the parameters of the other statistics.

You can export the statistics in one of the supported formats by clicking the button that is present in the top right corner of every statistic.