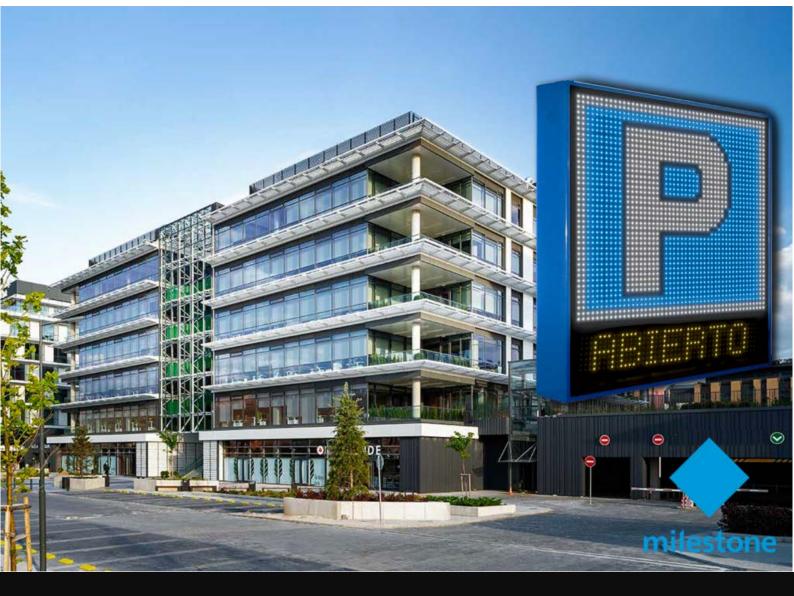
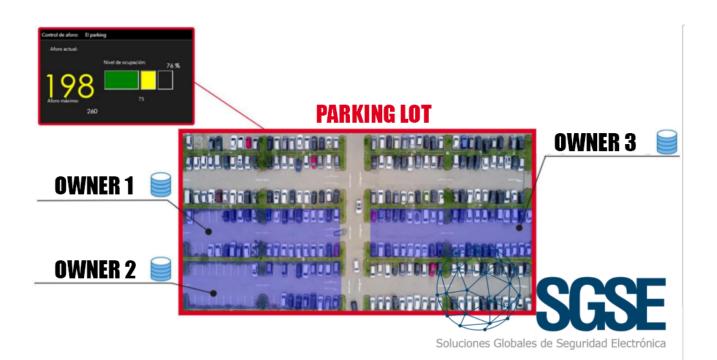
VIDEO-BASED ACCESS CONTROL OF MULTI-PROPETY PARKING LOTS WITH EXTENDED LPR





The effective operation of the set of parking spaces assigned to different properties, with the Extended LPR developed by SGSE, finds a technological solution based solely on video for the control of access to the premises based not only on the occupation of the car park itself but also the occupation of the total number of spaces that belong to each property. The architecture of the Extended LPR developed by SGSE is built on the LPR licenses of the manufacturer, Milestone, to manage access according to the level of occupancy, using video as the only technology.

This allows us to work on existing facilities without the need for additional technological proposals (for example, electronic access control systems) with all that this implies in terms of costs and implementation times.





CAMERA LICENSE

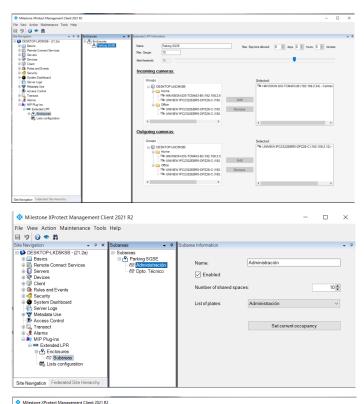


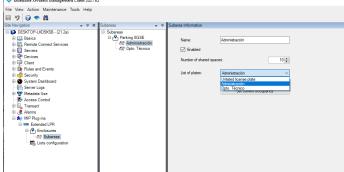
The overall and partial capacity in the car park with the Extended LPR

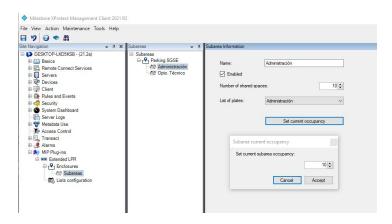
Within the parameterisation of the Extended LPR in each car park, we can define the overall capacity for the car park as a whole and partial ones for each of the properties with their respective parking spaces.

With these measurements we can create events within the Milestone software platform when:

- An occupancy level X (e.g. 75%) of the overall parking capacity has been reached.
- The full capacity of the car park has been reached.

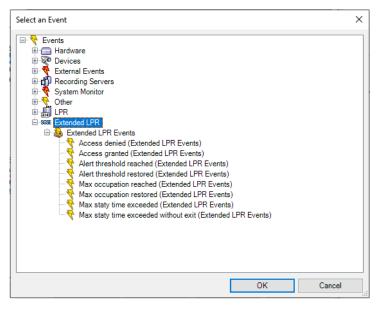






Each property has its own database containing the license plates of all vehicles that can access its parking spaces.

Different occupancy level events can trigger, via Milestone's rules engine, an action (e.g. block vehicle access) or be escalated to an alarm for handling by the system operator.



The icons are representative of the overall and partial capacity occupancy level

The Extended LPR has a monitoring tab within the Milestone software platform through which the operator can see, simply and visually, the occupancy level of the overall capacity and the different partial capacities of the different properties as shown in the following image:





Following the example of the image, Parking SGSE is the car park in its entirety where we currently have 4 vehicles inside a total of 5.

For this reason, the vehicle icon to the right of the SGSE Parking information is in yellow as it has exceeded the threshold (in this case 75% of the total) previously defined.

Below SGSE Parking we have the information related to two properties of the car park which are the administration department and the technical department of the company.

In the case of the technical department, we see that its vehicle icon is in red because the total number of assigned places has been reached, which in this case is 2.

This visual information panel allows the operator a quick understanding of the situation to anticipate possible issues in the car park, beyond the automated actions that we can define in Milestone through the rules for the occupancy events previously explained.

Alarms triggered by the time spent in the parking area

In addition to the occupancy level, with the Extended LPR, we can also control the vehicle stay time inside the car park and in the different properties that inherit the stay time of the overall enclosure.

In the previous figure explaining the occupancy level, we can also see that when the operator places the mouse over the car icon of a property or car park, it provides access to the information of the vehicles that are inside with the following data:

- Vehicle registration number.
- Date of entry.
- Time of entry
- Time spent in the car park and at the different properties.

When any of the vehicles exceed the stay time, the vehicle icon in the car park or property will appear as the characteristic red alarm circle in Milestone.

This scenario can be better understood with the following image:

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Parking occupancy indicators

Without having to work in the specific tab of Enclosures and Sub-areas, the operator can find out in real time the occupancy level of the car park with the visual occupancy indicators shown in the image below.

In these indicators, we will have information on the current capacity with a colour code (white, yellow and red depending on the occupation) together with a percentage representation.





CSV reports of vehicles present on a property

At any time the operator can click on the right margin of the Extended LPR monitoring tab, bringing up the information of all the vehicles that are inside a property or the car park to carry out a more exhaustive follow-up, as can be seen in the image below.



In addition, we can export said information, in CSV format, which can be sent to a third party or for subsequent analysis in detail.

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3	2222ABC	16/11/2022 12:15	0:06	True					
4	1234YUK	16/11/2022 12:16	0:05	True					
5	4444MVT	16/11/2022 12:16	0:05	False					
6	9876BCD	16/11/2022 12:17	0:04	False					
7	5678QQQ	16/11/2022 12:17	0:04	False					
8	2222BBB	16/11/2022 12:18	0:03	False					
9	9876AZQ	16/11/2022 12:19	0:02	False					
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Temporary whitelists for visitors and contractors

Within the configuration of the Extended LPR of SGSE, we can create white and blacklists for the automation of access in combination with total or partial occupancy control.

This way, even if we are below the defined capacity, a vehicle whose license plate is on a blacklist (for example, because it is not up to date with its monthly payment) will not be able to access the car park.

In addition to the possibilities offered by the white and blacklists in the accesses, the Extended LPR of SGSE allows us to create temporary whitelists.

Temporary whitelists allow access to the car park during a window of time configured by the operator with the possibility of also assigning it to any of the owners.

Thus, we make the operation of our car park more flexible.

The image below shows the settings in the Extended LPR of the temporary whitelists.

In any Milestone list, we add a custom field to accommodate the validity.

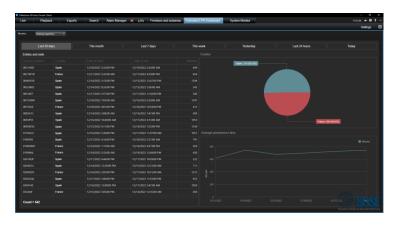
License plate match lists Lista con temporalidad Unlisted license plates	List information Name: Lista con temporalidad			Custom fields
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	search registration number	Validez	Edit	
	Registration number Marca			Add
	1234ABC OPEL 2222BBB VOLKSWAG	-	Delete	Edit
	9876BCD SEAT	-	Up	Delete
			Down	
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We enter the license plates next to the validity date (the date until which the license plates will be part of the list).

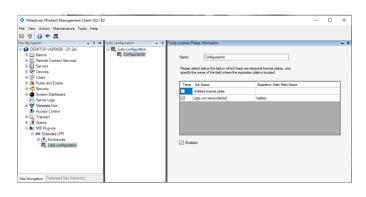


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In the plugin configuration, we mark which lists are temporary and in which field the validity is.



The Dashboard shown above can also be part of a view in Smart Client as can be seen below:





Business intelligence in the Extended LPR

For a better operation of parking resources, the Extended LPR includes a business intelligence module that presents, through a Dashboard, statistical information of interest such as the average time spent by vehicles in the parking lot, as well as the country of origin thereof.

We can visualize this information on set time windows (yesterday, today, this week, etc.) as shown in the next figure:



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Design your car park access management with SGSE.

