

## SOLUTION APPLICATIONS

### Product Code: NS-SG

#### PRIVATE CAR PARKS

- List based automated access for residents, employee, providers, etc.
- Audit of car state.
- Historic register of entrance and exit.

#### TOLLING WITH BARRIER

- Tag verification.
- External auditing if number of transits

#### MALLS

- Alarms on known offenders.
- Occupancy control.
- Length of stay management.
- Forensic investigation on incidents.
- Personalized publicity.

#### PORTS and LOGISTIC ZONES

- Tractor and trailer license plate match verification.
- Container code and license plate match verification.

# NEURAL SERVER ACCESS CONTROL

VIDEO ANALYTICS BASED SOLUTION FOR  
VEHICLE ACCESS CONTROL



- **NEURAL SERVER®** uses **Neuronal technology** and **Deep Learning** to perform **Video Analytics applied to access control** in a fast and efficient way, whatever the target scenario.
- **It can recognize license plates** continuously, or can be triggered by a loop, photocell, etc.
- Can operate barriers using multiple lists.
- It detects **make, molor, speed, traffic direction and lane, and classifies vehicles.**
- **NEURAL SERVER®** can manage **capacity control** and detection of **length of stay** in a private car park.
- **Alert generation** based on multiple lists.
- **Automatic reports** by emails (occupancy, etc)



## MINIMUM REQUIREMENTS

### CPU

- Intel Atom (2 cameras)

### MEMORY

- 2 GB RAM

### HD

- 500 GB

### OPERATING SYSTEM

- Windows Server 2012 R2, Windows 8, Windows 7, Windows 10

### COMPATIBILITY

#### SUPPORTED PROTOCOLS

- RTSP
- H264
- Motion JPEG
- JPEG
- Gige Vision
- IDS-IMAGING
- AVI
- IDS-IMAGING
- POINT GREY

#### SUPPORTED VMS

- Milestone
- NT Witness (Network Optix)
- Wisenet WAVE (Hanwha)
- Digifort
- DW Spectrum
- Avigilon Control Center
- Huawei
- IndigoVision
- Bosch BVMS
- Mirasys
- Tyco (Exacq)
- Pelco (VideoExpert)
- 3xLOGIC
- OnSSI
- AXIS CAMERA STATION

#### SUPPORTED CAMERAS

Vivotek, AVT, Axis, Avigilon, Bosch, Huawei, IDS, IndigoVision, JAI, JVC, Mobotix, Pelco, Sony, Vicon, HikVision, Messo, Dahua among others.

# NEURAL SERVER

## VEHICLE ACCESS CONTROL SOLUTION

## MAIN FEATURES

- More than 70 countries supported.
- Open Architecture.
- Neural Labs Proprietary technology
- Camera and VMS Agnostic (independent)
- It supports **ADR** plates (dangerous goods)
- Grammar control.
- Repeated plates filter.
- Image pre processing for shadow filter.
- Perspective correction.
- Real time recognition modes, by external trigger and motion detection.

For **each vehicle** it registers:

- **Recognized plates.**
  - Reliability per reading.
  - Color of the car.
  - Make of the car.
  - **Direction** detection.
  - Type of vehicle (**classification**).
  - **Speed** of vehicle (NL SPEED).
  - **Lane** of vehicle.
  - Images of vehicles.
  - Date and time, GPS position, camera ID, etc.
  - Country of the plate.
  - License plate position in the image.
- Easy integration from third party software
  - Allows centralized, distributed or mixed architectures.

## NEURAL EDGE

Neural Labs' **embedded solution** for LPR projects. The recognition algorithm is executed inside the camera, avoiding the use of a computer in **access control**, **tolls**, **weighing projects**, etc.



## A. I. FOR SMART CITIES

We advise you on your specific project.

We recommend you the most suitable hardware for your project in order to guarantee the best results.

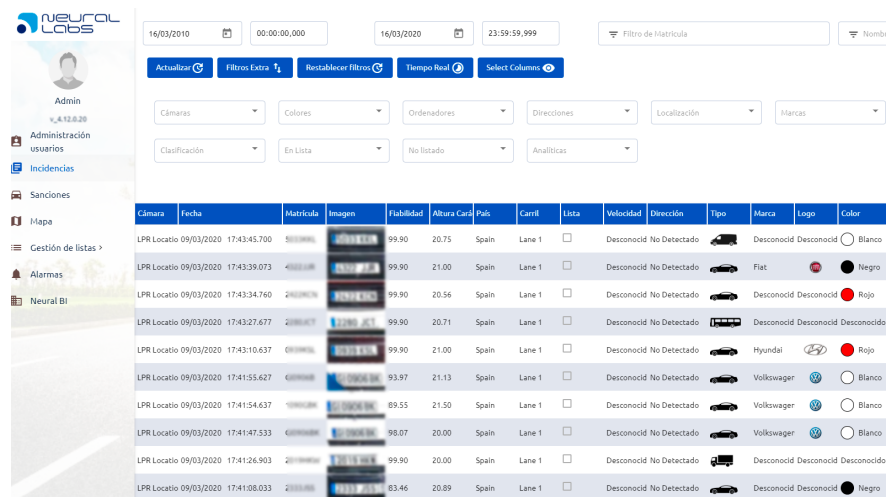
Contact us for personalized attention.

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### INCLUDES SOFTWARE OPERATOR

- Historical search by: plate, make, color, classification, time, direction, lane, etc.
- Multiple user management.
- Real time display of the last plate read by each camera.
- Multi list management and associated actions.
- Alerts to operators
- Pre & post event video recording.
- Excel / pdf export.
- Automated reports.
- Penalties management.



| Cámara      | Fecha      | Matrícula    | Imagen | Fiabilidad | Altura Carril | País  | Carril | Lista                    | Velocidad  | Dirección    | Tipo | Marca      | Logo       | Color      |
|-------------|------------|--------------|--------|------------|---------------|-------|--------|--------------------------|------------|--------------|------|------------|------------|------------|
| LPR Locatio | 09/03/2020 | 17:43:45.700 |        | 99.90      | 20.75         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Desconocid | Desconocid | Blanco     |
| LPR Locatio | 09/03/2020 | 17:43:39.073 |        | 99.90      | 21.00         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Fiat       |            | Negro      |
| LPR Locatio | 09/03/2020 | 17:43:34.760 |        | 99.90      | 20.56         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Desconocid | Desconocid | Rojo       |
| LPR Locatio | 09/03/2020 | 17:43:27.677 |        | 99.90      | 20.71         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Desconocid | Desconocid | Desconocid |
| LPR Locatio | 09/03/2020 | 17:43:10.637 |        | 99.90      | 21.00         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Hyundai    |            | Rojo       |
| LPR Locatio | 09/03/2020 | 17:41:55.627 |        | 93.97      | 21.13         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Volkswagen |            | Blanco     |
| LPR Locatio | 09/03/2020 | 17:41:54.637 |        | 89.55      | 21.50         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Volkswagen |            | Blanco     |
| LPR Locatio | 09/03/2020 | 17:41:47.533 |        | 98.07      | 20.00         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Volkswagen |            | Blanco     |
| LPR Locatio | 09/03/2020 | 17:41:26.903 |        | 99.90      | 20.00         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Desconocid | Desconocid | Desconocid |
| LPR Locatio | 09/03/2020 | 17:41:08.033 |        | 83.46      | 20.89         | Spain | Lane 1 | <input type="checkbox"/> | Desconocid | No Detectado |      | Desconocid | Desconocid | Negro      |

### OCCUPANCY MANAGEMENT

- Entrance and exit management.
- Allows bidirectional lanes.
- Car inventory.
- Length of stay management.
- Automated reports by email.

# NEURAL SERVER TECHNICAL SPECIFICATIONS

|                                           |                                                                                                                                    |                                                                                                      |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Processing time</b>                    | 20 to 150 ms                                                                                                                       |                                                                                                      |
| <b>Recognition rate</b>                   | 98%* (depending on the acquisition quality and country of the plate).                                                              | <i>This is a minimum value. It can be higher when using the adequate hardware and configuration.</i> |
| <b>Images per second/camera</b>           | Stop & Go version                                                                                                                  | 5 (depending on the PC or server)                                                                    |
|                                           | Free Flow version                                                                                                                  | 10 to 20 (depending on the PC or sever)                                                              |
| <b>Maximum number of cameras</b>          | Unlimited, depending on the PC or Server                                                                                           |                                                                                                      |
| <b>Supported Protocols</b>                | MJPEG                                                                                                                              | JPEG                                                                                                 |
|                                           | H264                                                                                                                               | AVI                                                                                                  |
|                                           | RTSP                                                                                                                               | Gige Vision                                                                                          |
|                                           | IDS Imaging                                                                                                                        | DirectShow                                                                                           |
|                                           | Point Grey                                                                                                                         |                                                                                                      |
| <b>Supported cameras</b>                  | Vivotek, AVT, Axis, Avigilon, Bosch, Huawei, IndigoVision, Mobotix, Pelco, Sony, Vicon, HikVision, Dahua and Hanwha, among others. | Specific models of each brand. Ask you sales agent                                                   |
| <b>Other video sources</b>                | Avi Files                                                                                                                          |                                                                                                      |
|                                           | Jpeg, Bmp Files                                                                                                                    |                                                                                                      |
| <b>Integrated Video Recording Systms</b>  | Milestone (Express version, minimum)                                                                                               | Pelco                                                                                                |
|                                           | NT Witness (Network Optix)                                                                                                         | Wisenet WAVE (Hanwha)                                                                                |
|                                           | Digifort                                                                                                                           | DW Spectrum                                                                                          |
|                                           | Axxon Soft, Indigo Vision                                                                                                          | Avigilon Control Center                                                                              |
|                                           | Bosch BVMS, Nuuo                                                                                                                   | 3xLOGIC, Huawei                                                                                      |
|                                           | Exacq (Tyco), Mirasys                                                                                                              | OnSSI                                                                                                |
|                                           | AXIS Camera Station                                                                                                                |                                                                                                      |
| <b>2 line license plates</b>              | Yes                                                                                                                                |                                                                                                      |
| <b>Motorbike license plates</b>           | Yes                                                                                                                                |                                                                                                      |
| <b>Diplomatic license plates</b>          | Yes                                                                                                                                |                                                                                                      |
| <b>Operative System</b>                   | Windows 7, Windows Server 2012 R2, Windows 8, Windows 10, all 64 bits                                                              |                                                                                                      |
| <b>Database</b>                           | MS SQL Server Express                                                                                                              | Standard and Enterprise versions supported, but not included                                         |
| <b>Included Analytics (NO extra cost)</b> | Direction Detection<br>Lane Detection                                                                                              | License Plate Recognition                                                                            |
| <b>Optional Analytics (Extra cost)</b>    | Make Detection<br>Color Detection                                                                                                  | Speed calculation<br>Vehicle classification                                                          |
| <b>Working modes (per camera)</b>         | Free Flow<br>By Trigger<br>By Motion Detection                                                                                     |                                                                                                      |
| <b>Third Party Integration</b>            | XML messages via socket<br>SQL Server database access                                                                              |                                                                                                      |