

VIDEO ANALYTICS VEHICLE ACCESS CONTROL SOLUTION APPLIED TO:

PRIVATE CAR PARKS

- List based automated access for residents, employee, providers, etc.
- Audit of car state.
- Historic register of entrance and exit.
- Forensic investigation.
- Vehicles without Insurance.

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

SUPPORTED CAMERAS

Vivotek, AVT, Axis, Avigilon, Bosch, Huawei, IDS, IndigoVision, JAI, JVC, Mobotix, Pelco, Sony, Vicon, HikVision, Messoa, 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 simple LPR projects. The recognition algorithm is executed inside the Vivotek 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.

LEARN MORE IN

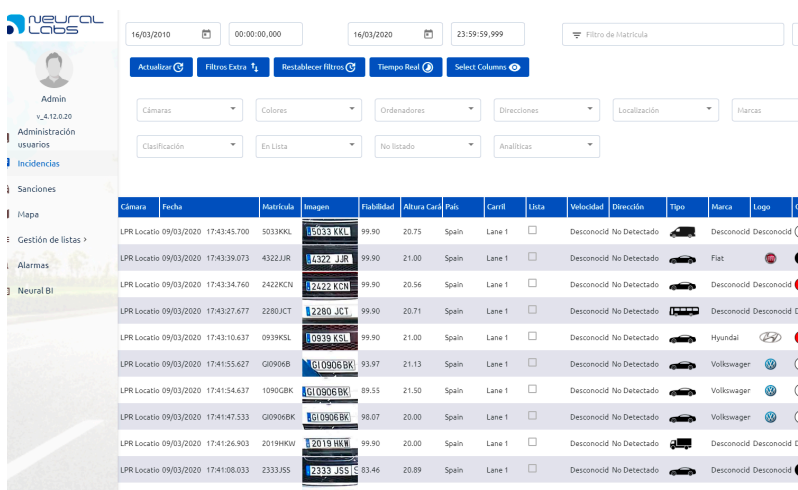


NEURAL SERVER

VEHICLE ACCESS CONTROL SOLUTION

Includes operator software Neural Viewer

- 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	Velocidad	Altura	País	Carril	Lista	Velocidad	Dirección	Tipo	Marca	Logo	Co
LPR Locatio	09/03/2020	17:43:45.700	5033KXL	99.90	20.75	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Desconocid	Desconocid	C
LPR Locatio	09/03/2020	17:43:39.073	4322JLR	99.90	21.00	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Fiat		
LPR Locatio	09/03/2020	17:43:34.760	2422KCN	99.90	20.56	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Desconocid	Desconocid	
LPR Locatio	09/03/2020	17:43:27.677	2280JCT	99.90	20.71	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Desconocid	Desconocid	De
LPR Locatio	09/03/2020	17:43:10.637	0939KSL	99.90	21.00	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Hyundai		
LPR Locatio	09/03/2020	17:41:55.627	G0906BK	93.97	21.13	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Volkswagen		
LPR Locatio	09/03/2020	17:41:54.637	1090GBK	89.53	21.50	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Volkswagen		
LPR Locatio	09/03/2020	17:41:47.533	G0906BK	98.07	20.00	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Volkswagen		
LPR Locatio	09/03/2020	17:41:26.903	2019HKW	99.90	20.00	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Desconocid	Desconocid	De
LPR Locatio	09/03/2020	17:41:06.033	2333JSS	83.46	20.89	Spain	Lane 1	<input type="checkbox"/>	Desconocid	No Detectado		Desconocid	Desconocid	

OCCUPANCY MANAGEMENT

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

TECHNICAL SPECIFICATIONS OF NEURAL SERVER

Processing time	20 to 150 ms	
Recognition rate	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>
Images per second/camera	Stop & Go version	5 (depending on the PC or server)
	Free Flow version	10 to 20 (depending on the PC or sever)
Maximum number of cameras	Unlimited, depending on the PC or Server	
Supported Protocols	MJPEG	JPEG
	H264	AVI
	RTSP	Gige Vision
	IDS Imaging	DirectShow
Supported cameras	Point Grey	
	AVT, Axis, Vivotek, IndigoVision, Bosch, Avigilon, HikVision, Huawei, Dahua, Messo, IDS-IMAGING, PointGrey, Basler, JAI, JVC	Mobotix, Pelco, Sony, etc. (specific models of each brand).
Other video sources	Avi Files	
	Jpeg, Bmp Files	
Integrated Video Recording Systms	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
2 line license plates	Yes	
Motorbike license plates	Yes	
Diplomatic license plates	Yes	
Operative System	Windows 7, Windows Server 2012 R2, Windows 8, Windows 10, all 64 bits	
Database	MS SQL Server Express	Standard and Enterprise versions supported, but not included
Included Analytics (NO extra cost)	Dirction Detection Lane Detection	License Plate Recognition
Optional Analytics (Extra cost)	Make Detection Color Detection	Speed calculation Vehicle classification
Working modes (per camera)	Free Flow By Trigger By Motion Detection	
Third Party Integration	XML messages via socket SQL Server database access	
Supported Countries	More than 70 countries supported	Ask your sales agent