neural labs
The traffic analytics company!

NEURAL SERVER CITY & ITS

APPLICATIONS:

Product code: NS-FF

SECURITY
- Uninsured vehicle detection.
- Stolen vehicles.
- Terrorist search.
- Forensic investigation.
- Car characteristics not matching government records
- Police cars.
- Vehicles without license plate.

MOBILITY
- Vehicle counting.
- Route tracking (origin-destination).
- Transit distribution and density, vehicle category, speed statistics, etc.

ENFORCEMENT
- Red light enforcement.
- Stop sign enforcement.
- Illegal turn.
- Pedestrian zone management.
- Wrong direction.
- Traffic restriction.
- Pollution management.
- Illegal stop.

ITS
- Section control / radar
- Speeding.
- Tolling.

- **NEURAL SERVER©** uses **Neuronal technology** and **Deep Learning** to perform **Traffic Analytics** in a fast and efficient way, whatever the target scenario: police cars, fixed cameras, etc.

- **It can recognize license plates** continuously, from vehicles in movement (Free-Flow) or stopped (Stop & Go).

- It detects **make**, **color**, **speed**, **traffic direction** and **lane**, and **vehicle classification:** car, motorcycle, bus, truck and van.

- **NEURAL SERVER©** detects traffic infractions like: **red light crossing**, **wrong turn**, **section control**, **restricted zone**, **wrong way**, etc.

- It's compatible with cameras from different brands and protocols in the same system.

NEURAL - VCOP for police cars

MINUMUM REQUIREMENTS

CPU
Intel Atom (1 camera)

MEMORY
2 GB RAM

HD
500 GB

OPERATING SYSTEM
Windows Server 2012 R2,
Windows 8, 7 y 10

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

SUPPORTED VMS
MILESTONE
NX 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, IndigoVision,
Mobotix, Pelco, Sony, Vicon,
HikVision, Dahua and Hanwha,
among others.

MAIN FEATURES

- More than 70 supported countries.
- 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 plate.**
    - Reliability per reading.
    - Vehicle **color**.
    - Vehicle **make** (Toyota, Renault, BMW, etc.).
    - **Direction** detection.
    - **Vehicle classification:** car, motorcycle, bus, truck and van.
    - Vehicle **Speed** (NL SPEED).
    - Vehicle **Lane**.
    - Vehicle image.
    - **Country** of the plate.
    - License plate position in the image.

- Easy integration from third party software.
- Allows centralized, distributed or mixed architectures.

neural Labs
The traffic analytics company!

NEURAL SERVER CITY & ITS

neural labs
The traffic analytics company!

A. I. FOR SMART CITIES

We advise you on your specific project.

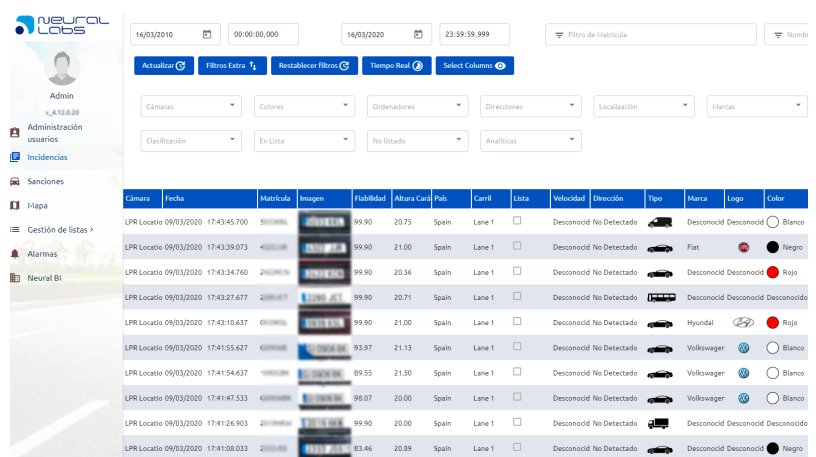We recommend you the most suitable hardware for your project in order to guarantee the best results.

Contact us for personalised attention.

LEARN MORE IN:

INCLUDES OPERATOR SOFTWARE

- Historical search by: plate, make, color, classification, time, direction, lane, etc.
- Multiple user management.
- Real time display.
- Multi list management and associated actions.
- Alerts to operators.
- Configurable pre / post event video recording.
- Fine management and Enforcement
- Excel / pdf export.
- Automated reports.

FINE MANAGEMENT MODULE

- **Section control** (average speed between 2 points).
- **Restricted area** management.
- **Wrong direction** detection.
- **Red light** enforcement.
- **Vehicle counting**.
- **Wrong turn**.
- **Illegal Stop**.

NEURAL SERVER TECHNICAL SPECIFICATIONS

Processing time	20 to150 ms	
Recognition rate	98%* (depending on the acquisition quality and country of the plate).	*This is a minimum value. It can be higher when using the adequate hardware and configuration.*
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 server)
Maximum number of cameras	Unlimited, depending on the PC or Server	
Vehicle maximum speed	250km/h (using the adequate camera and lighting)	
Supported protocols	MJPEG	JPEG
	H264	AVI
	RTSP	Gige Vision
	IDS Imaging	DirectShow
	Point Grey	
Supported cameras	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
Other video sources	Avi Files	
	Jpeg, Bmp files	
Integrated video recording systems	Milestone (Express version, minimum)	Pelco
	NX 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	
2 lines license plates	Yes	
Motorcycle 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)	Number Plate Recognition Lane Detection	
Optional analytics (Extra cost)	Make Detection Color Detection Direction detection	Speed Calculation Vehicle classification
Traffic offence detected (Extra cost)	Wrong turn Red light run Pedestrian zone management	Wrong way Section speed control
Working modes (per camera)	Free Flow By an external trigger By motion detection	
Third party Integration	XML messages via Socket or JSON SQL Server database access	
Supported countries	More than 70 countries	Ask you sales agent