VIT Autocode for NUUO

LICENSE PLATE RECOGNITION MODULE FOR NUUO MAINCONSOLE

Structure

- About “Video Internet Technologies” Ltd.
- Integrated solutions for NUUO – Parking and Traffic
- Autocode and Mainconsole Configuration
- Possibilities of Autocode for NUUO
- Licensing system
- Contacts and technical support
- Questions

About VIT

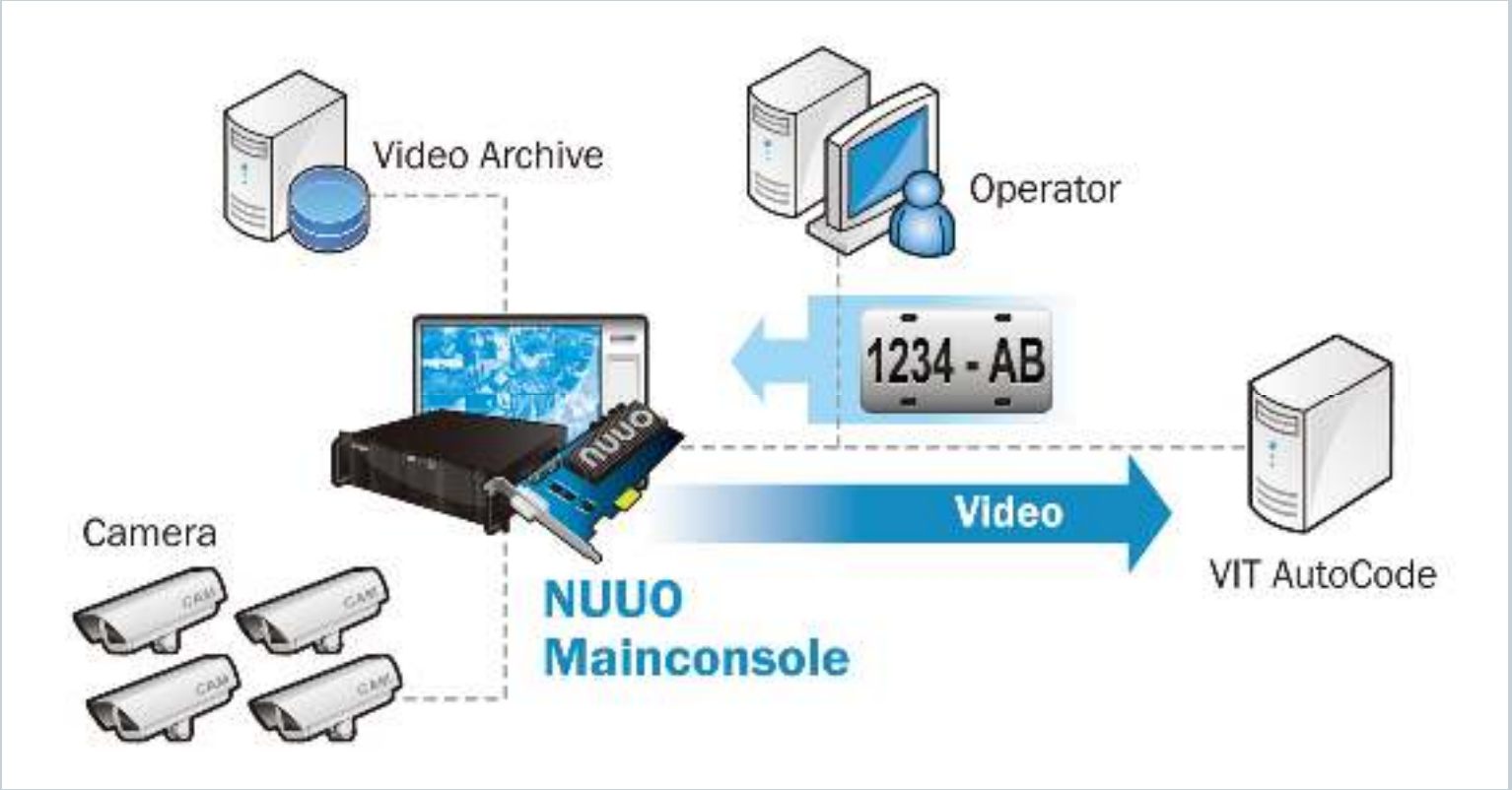
- Founded in 2000, Kiev, Ukraine
- Video analytics since 2005
- Partnership with NUUO since 2012:
- Autocode for VMS (Parking, Traffic)

Notable projects

- Automatic entrance on customs, Ukraine
- Mobile recognition on police cars, Bogota, Colombia
- Automatic violation detection, Russia
- Parking in hotels chain, Ukraine
- Traffic surveillance, Spain
- More successful projects on public Wiki:
  - http://en.docs.vit.ua

Autocode for NUUO

- Integration of LPR system into NUUO Mainconsole



Supported cameras

- All cameras, supported by NUUO (more than 90 manufacturers), both analog and IP:

Autocode for NUUO. Features

- Recognition rate for most of countries is over 90%
- Unlimited number of license plates on one frame
- Up to 16 recognition channels on one server
- Display Live View from camera from Mainconsole
- Creating reports in Excel, HTML, PDF, export of settings
- Sending events to NUUO Mainconsole
- 2 versions: Parking and Traffic

Autocode Parking for NUUO

- System is created for automation of business-processes at access control points
- System does LPR and sends Entry/Exit events to NUUO Mainconsole, including such events as “Car in group” and “Car let”
- Possibility to create and edit unlimited number of groups and clients

Autocode Parking. Typical installations

- Typical installations
  - Automatic parking for business
  - Weighbridge – connection to scales, truck weight measurement
  - Automatic pass documents printing and scanning

Autocode Traffic

- Features
  - Recognition on up to 180 km/h speed
  - ANPR time ≤2 milliseconds
  - Card file with possibility of “Wanted” groups
  - Possibility to integrate with radar systems
  - Integration with alarm systems and NUUO event system
  - Collecting traffic statistics

Autocode Traffic. Typical installations

- Typical installations
  - Highway for speed measurement
  - For automatic charge on toll gates
  - Mobile installation on the roof of the police car

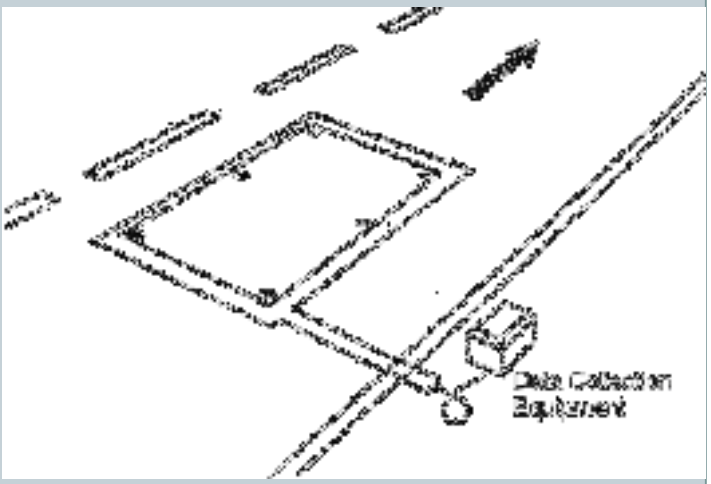
Comparison chart

	Autocode Parking for NUUO	Autocode Traffic for NUUO
Purpose	Access control	Traffic control
Open/close gate	+	-
«Black lists»	-	+
Frame processing	6 fps	25 fps
Maximal speed*	40 km/h	180 km/h or more

* Depends on camera and shutter possibilities

Cameras and servers

- Supports all camera types from Mainconsole
- Cameras selection recommendations
  - The_camera_selection_guidelines.pdf
- IR-light, white light (e.g. KOMOTO)
- Inductive loops
- Servers selection recommendations
  - Servers_selection_recommendations.pdf



Servers selection recommendations

Comparison table

Computer configuration	Frame resolution				
	720x288	720x576	1360x512	1360x896	2336x1752
Intel Core i5-2500 3.3Ghz 2Gb RAM	240	128	68	38	10
Intel Xeon DP Quad-Core E5620 8Gb RAM	274	180	94	54	--*
Intel Core i7-2600 3.4Ghz 8Gb RAM	386	220	102	66	20
Intel Core i7-3930K 3.2Ghz 16Gb RAM	642	370	192	110	32
2* Intel Xeon X5650 2.66GHz 12Gb RAM	1034	569	299	--*	54

* testing for such configuration was not conducted

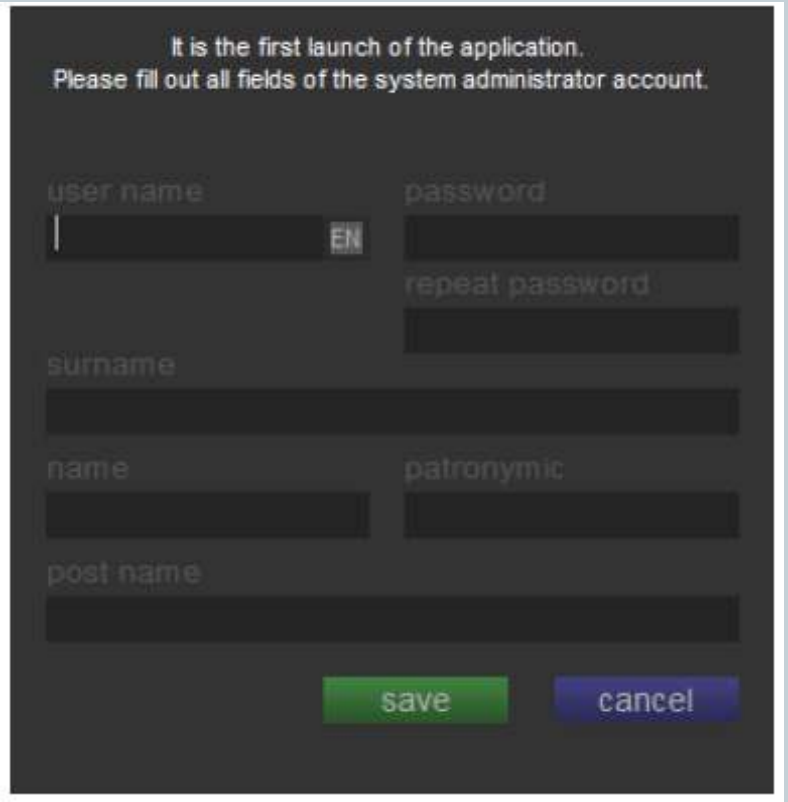
Processor is loaded most in number plate recognition process, the amount of used RAM is 2GB.

CONDITIONS:

- 1. Processor is busy with recognition only
- 2. Processor is loaded on 80-90%
- 3. XVID or MJPEG format of the input video for recognition module

Settings. License and registration

- Demo – 30 days after installation
- Registration in the system

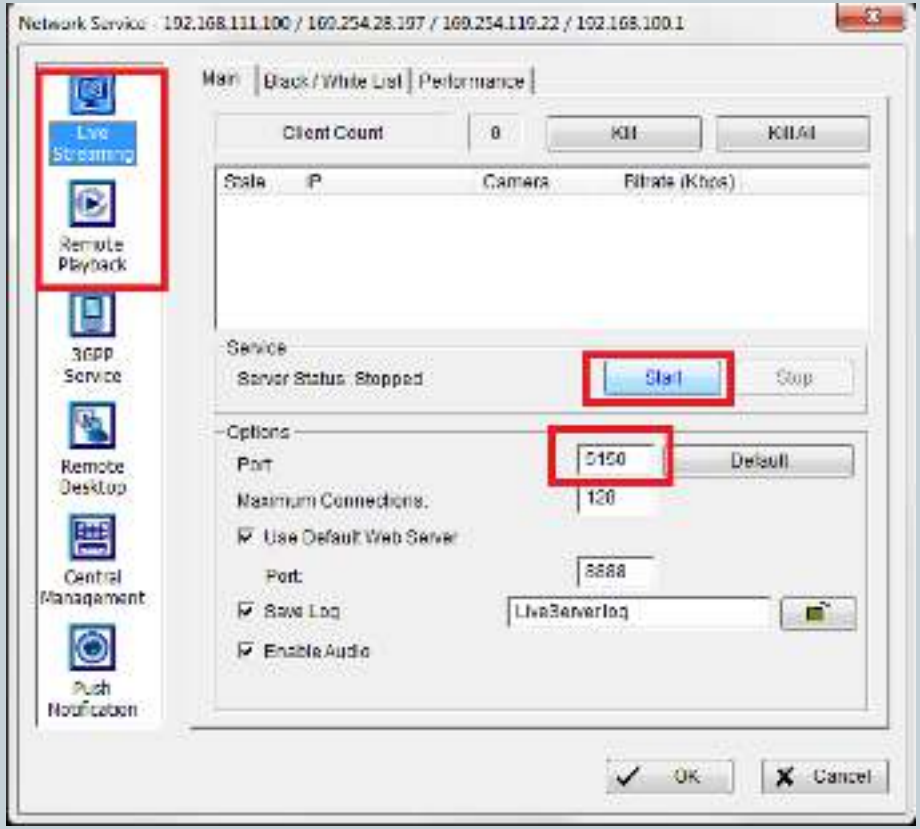


Settings. Start Network Service in Mainconsole

- Settings->Network Service

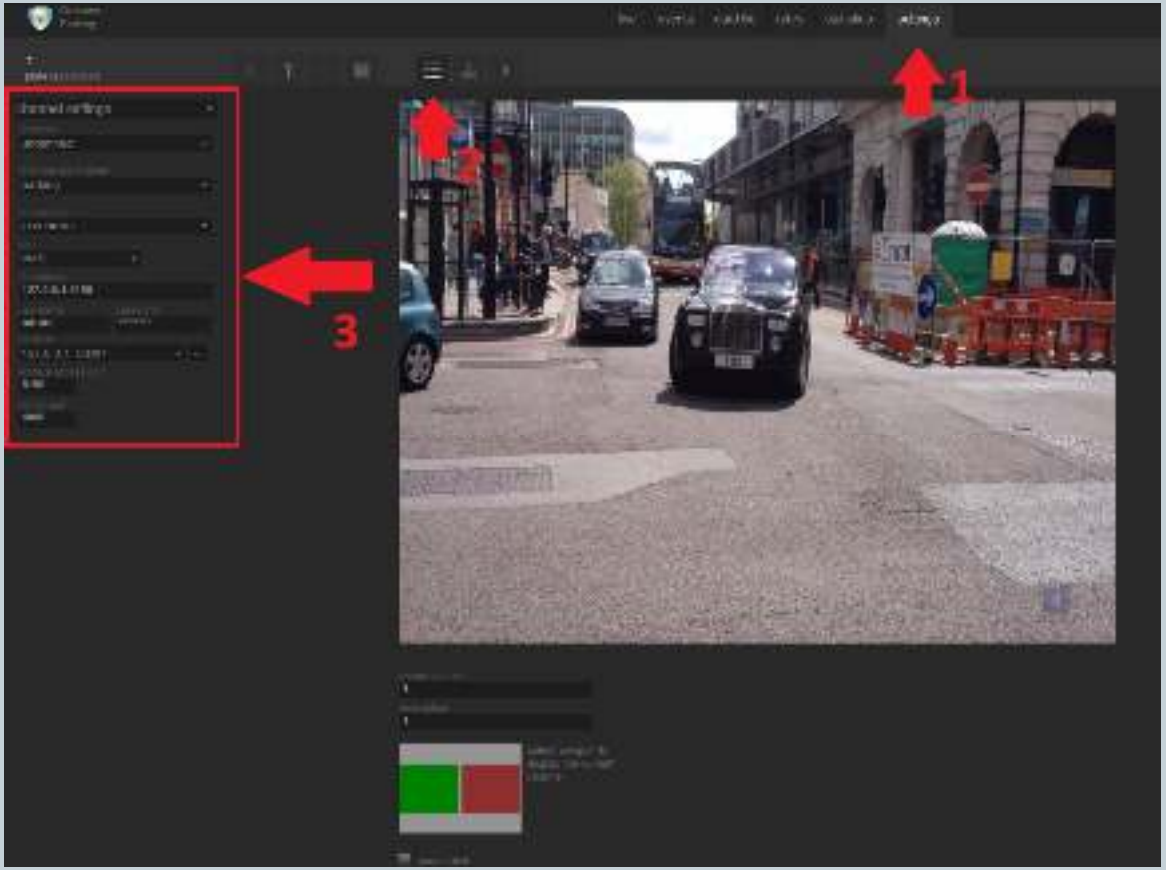
Settings. Start Network Service in Mainconsole

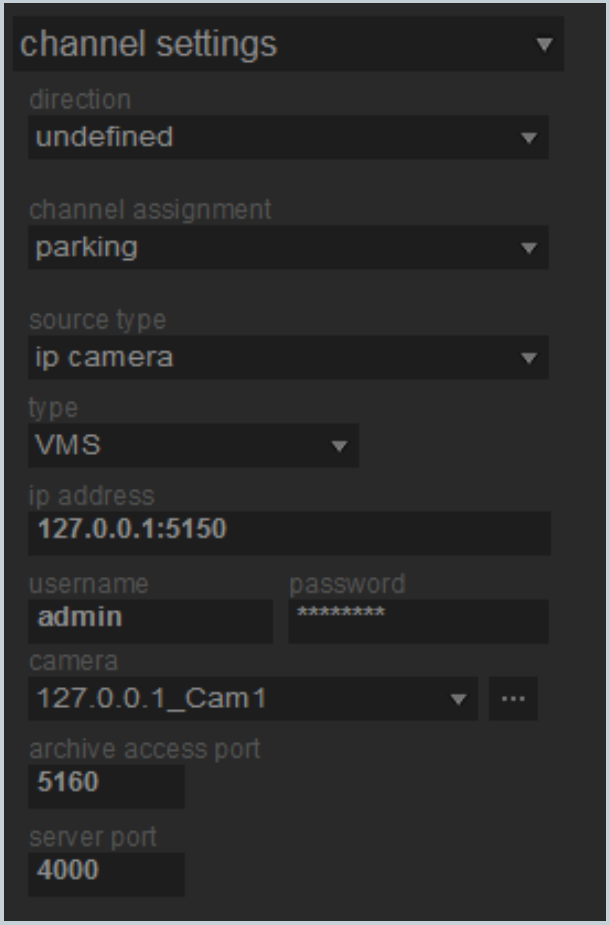
- Live Streaming->Start (port - 5150)
- Remote Playback->Start (port - 5160)



Settings. Video Sources in Autocode

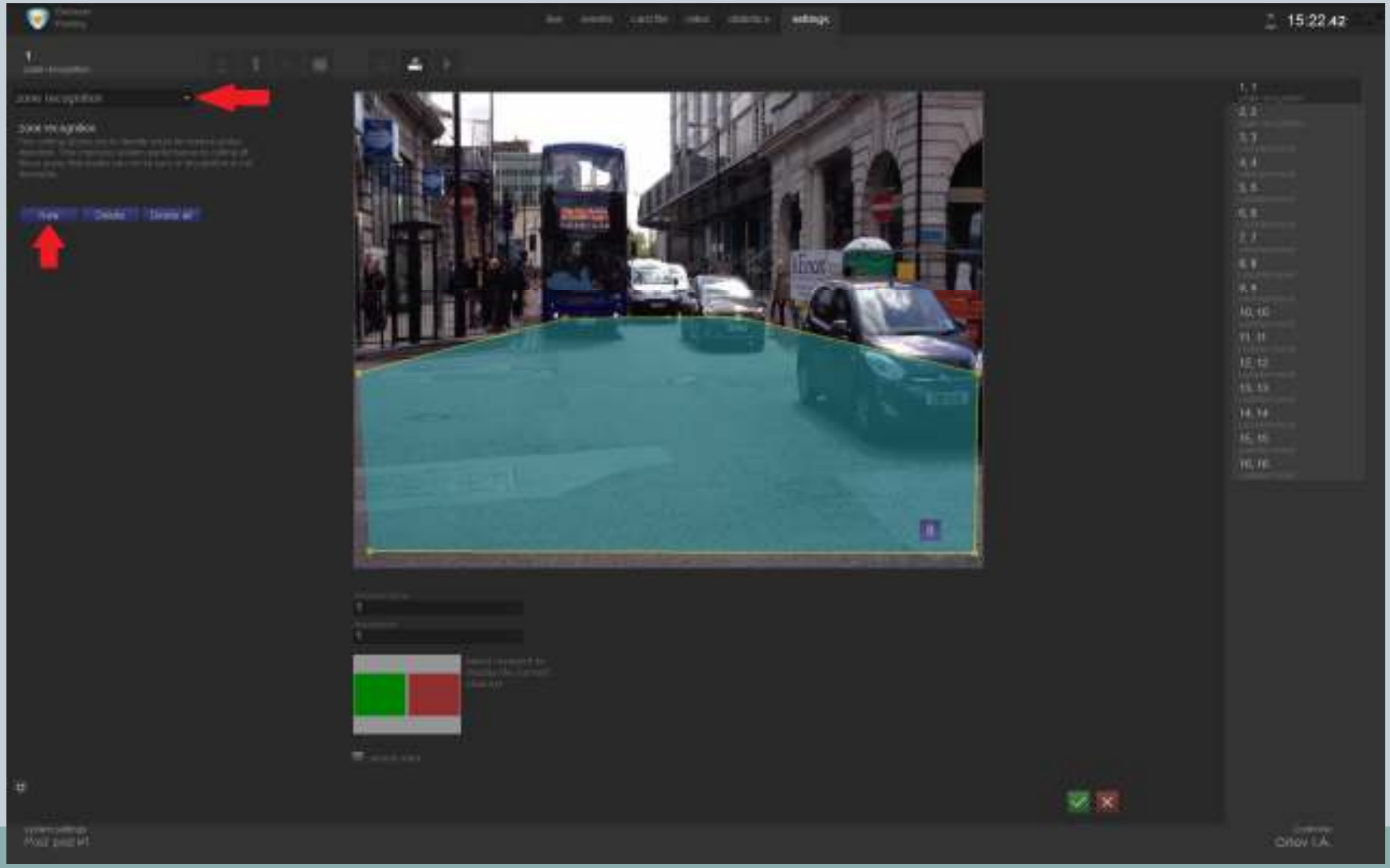
- Server port – target port for Metadata





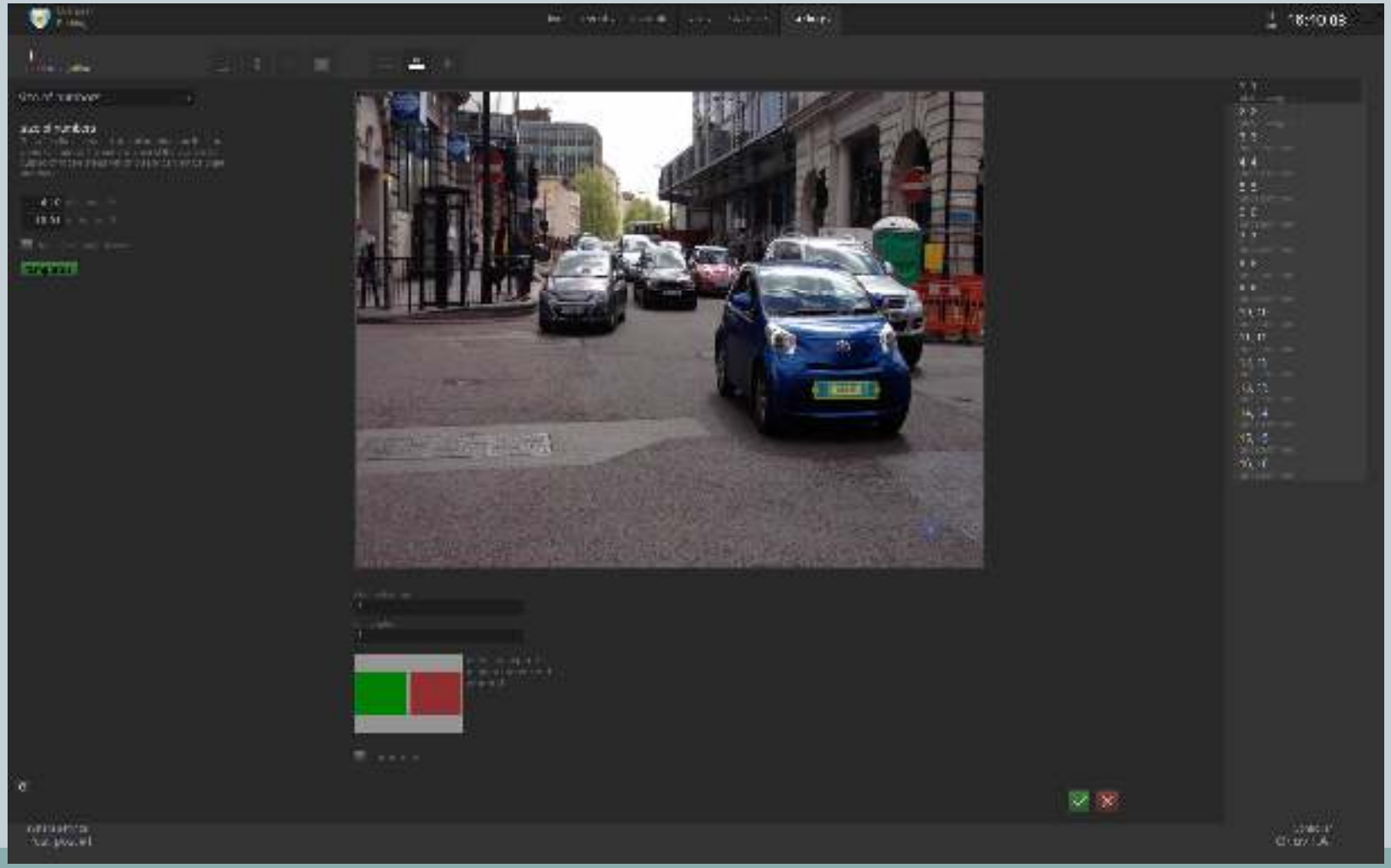
Settings. Recognition. Step 1

- Zone of recognition



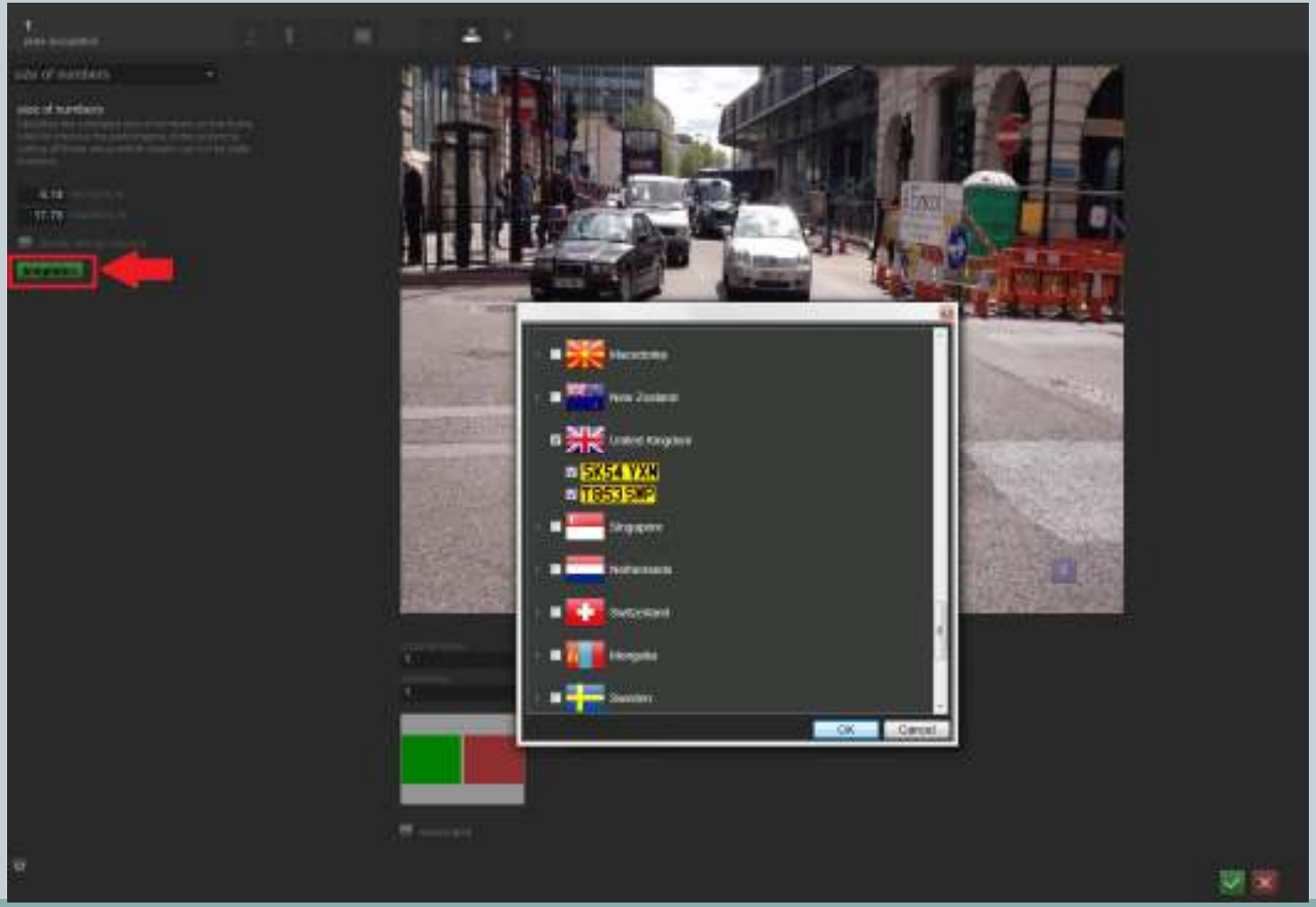
Settings. Recognition. Step 2

- Plate size



Settings. Recognition. Step 3

- Templates

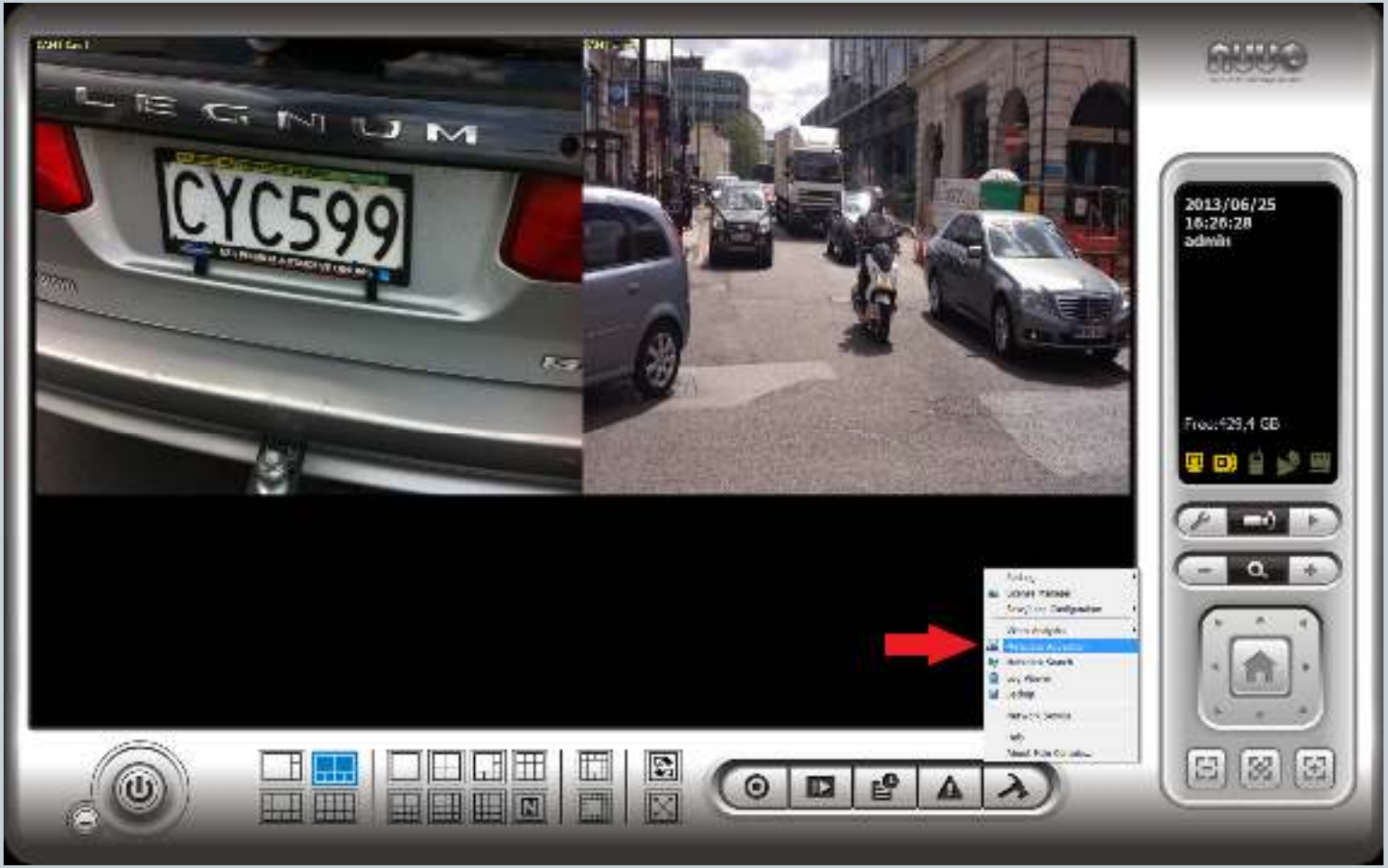


Supported countries

- More than 100 countries (including all from South America)
- Process of adding a new country takes 2-3 weeks
- Complete list of supported countries can be found here: https://www.dropbox.com/s/tk0xga7hmywykfz/supported_countries_2.4.9_en.pdf

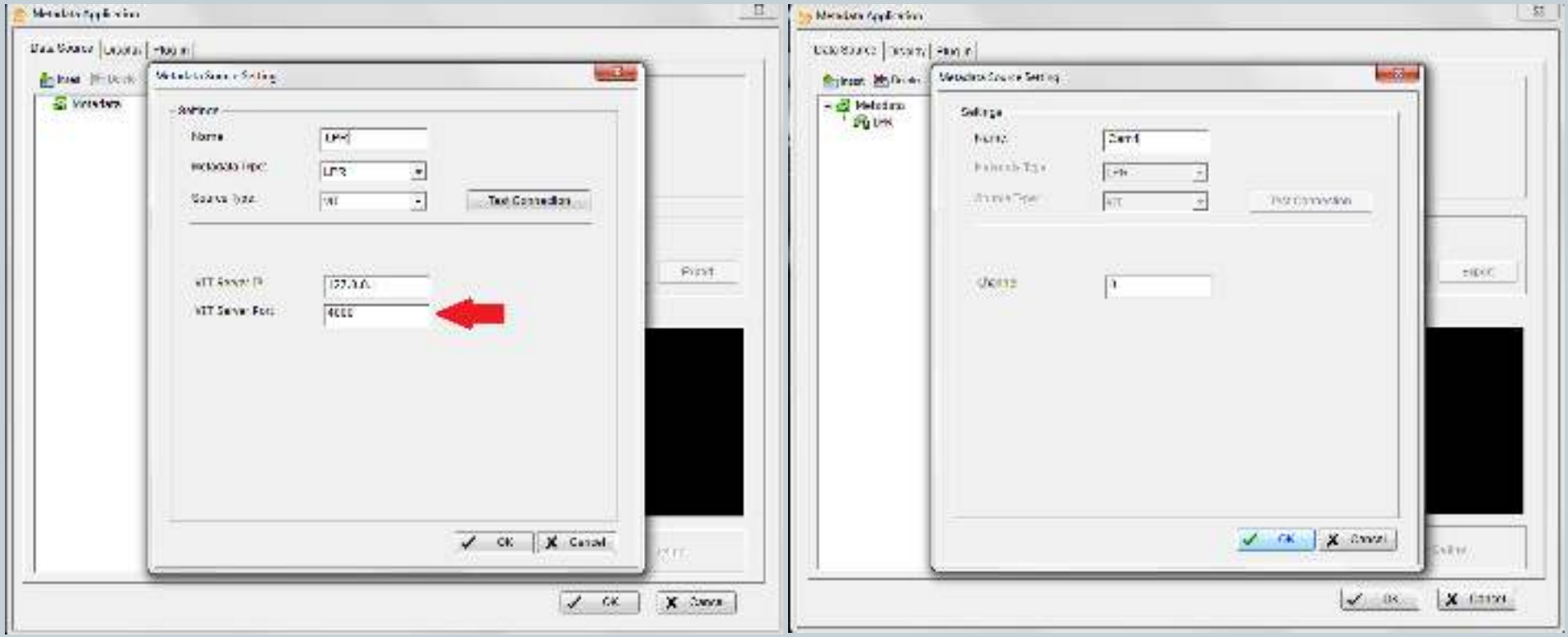
Settings. Receive Metadata in Mainconsole

- Settings->Metadata Application->Insert



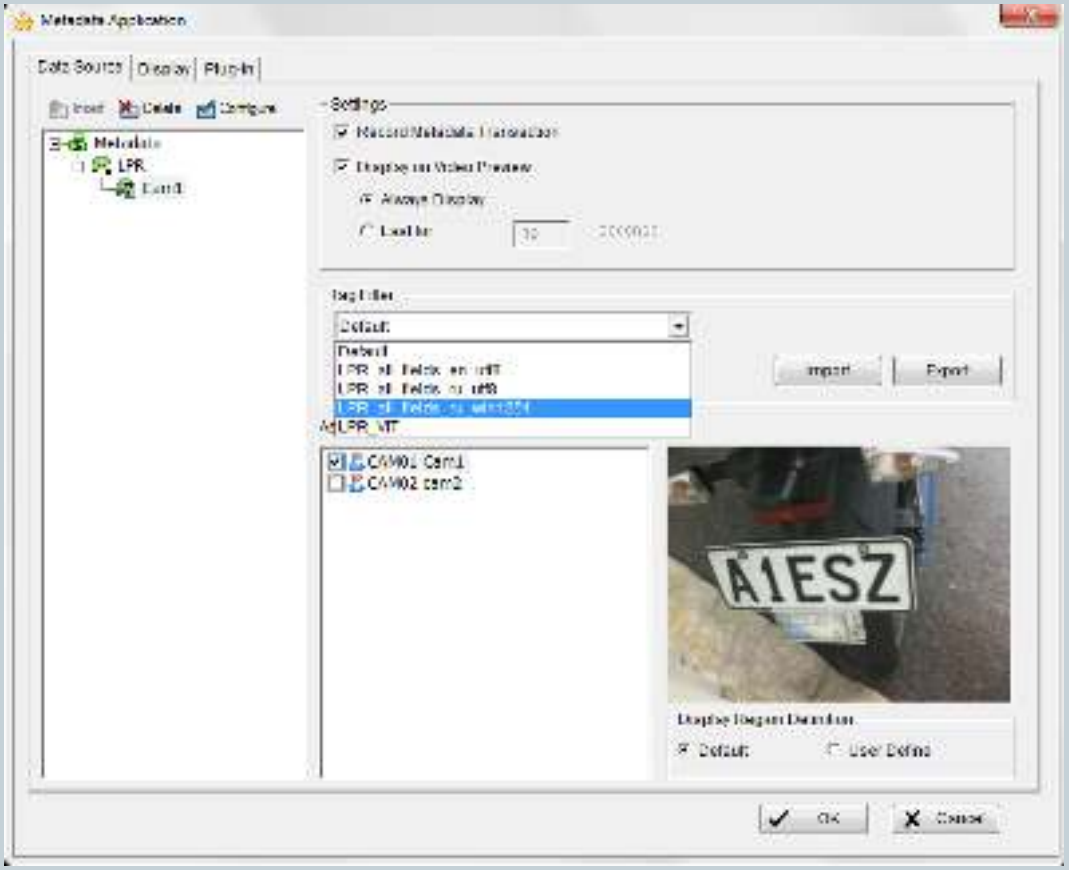
Settings. Receive Metadata in Mainconsole

- Add metadata source and channels



Settings. Metadata filters

- Delivered with Autocode
- Latin characters
  - LPR_all_fields_en_utf8



Metadata information. Event types

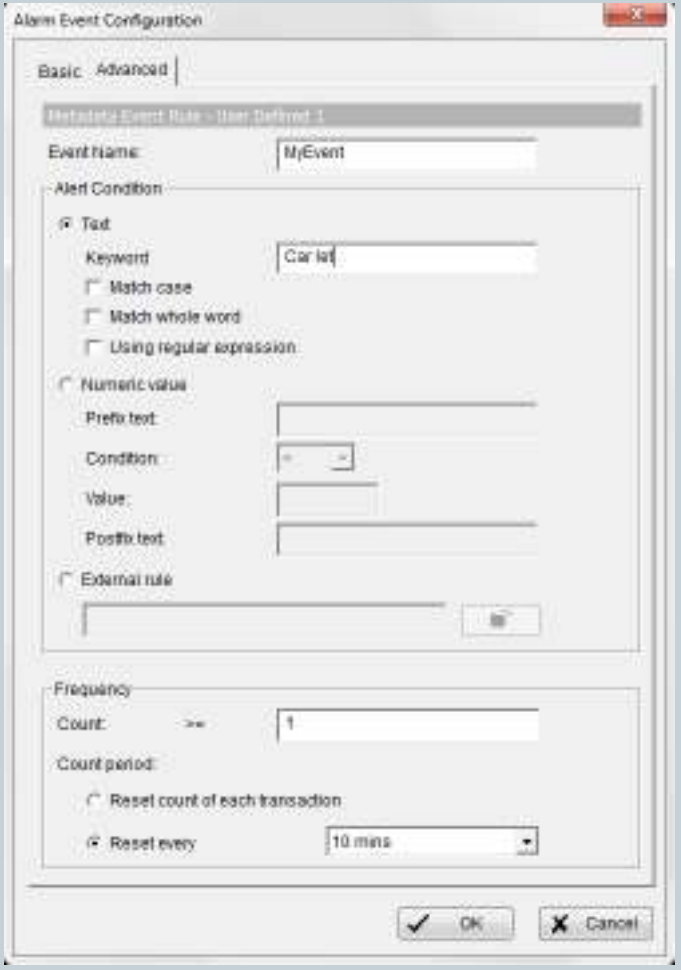
- Event types :
  - Plate detected
  - Plate lost
  - Car in group ***
  - Car let

11 reaction types in NUUO

- On-screen display
- Play sound
- Send email
- Phone call
- PTZ Preset go
- Signal digital output
- SMS messages
- FTP
- Pop up e-map
- Send to central server
- Push notification

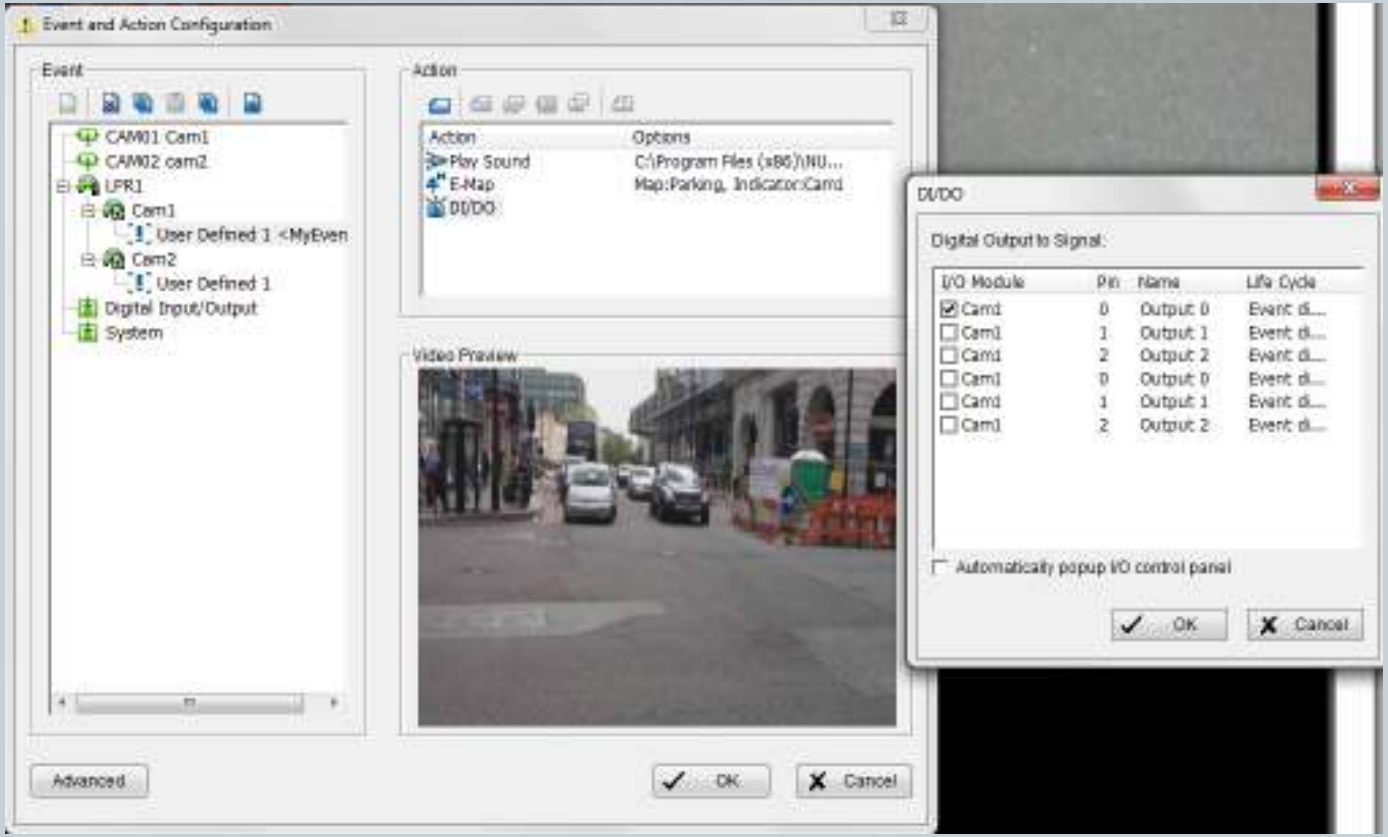
Configure reaction in Mainconsole

- Details: http://www.nuuo.com/WikiDetail.php?sid=0065&product=0002
- Event and action configuration
- Reaction by keyword



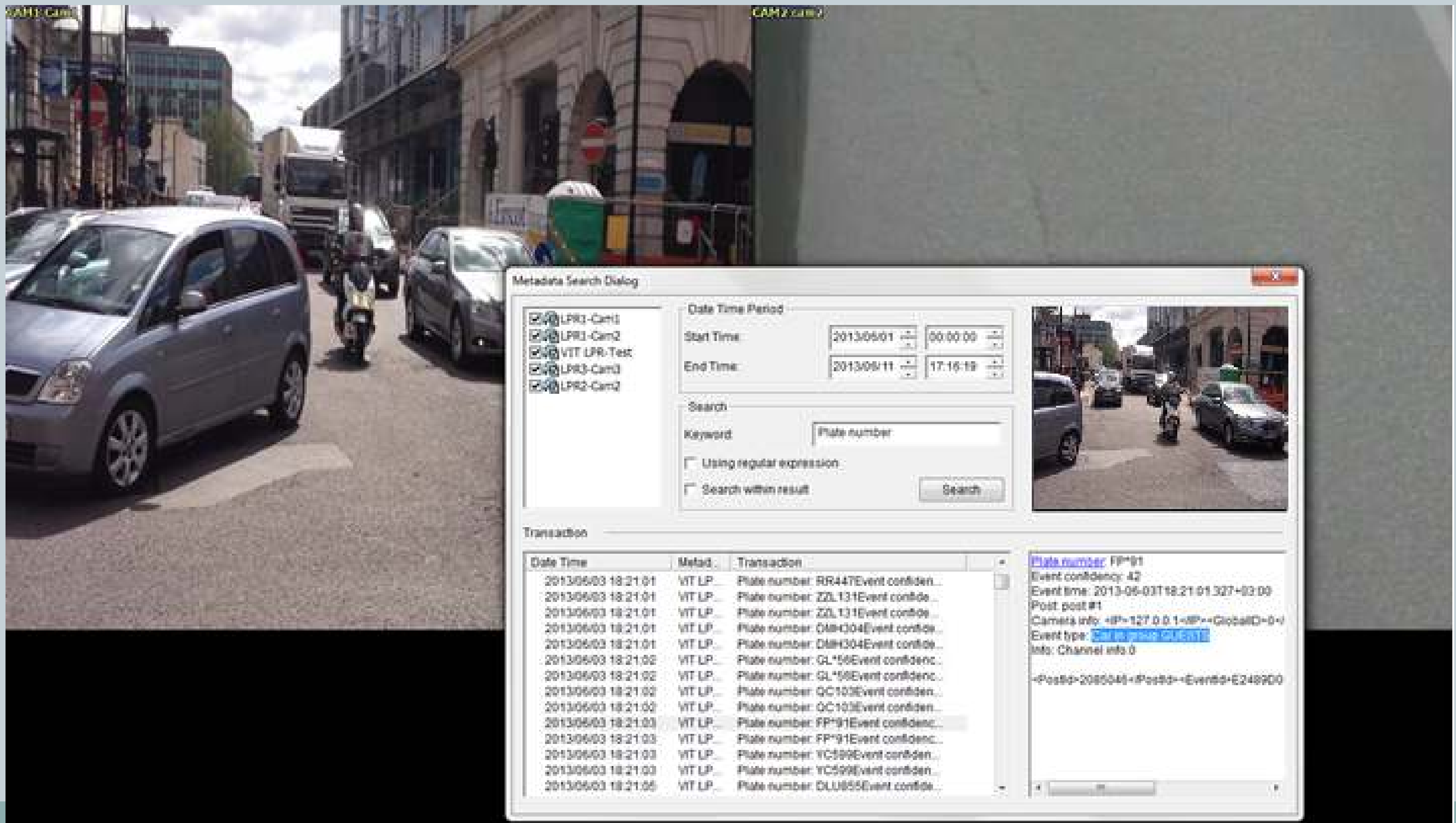
Configure reaction in Mainconsole

- For each Metadata camera

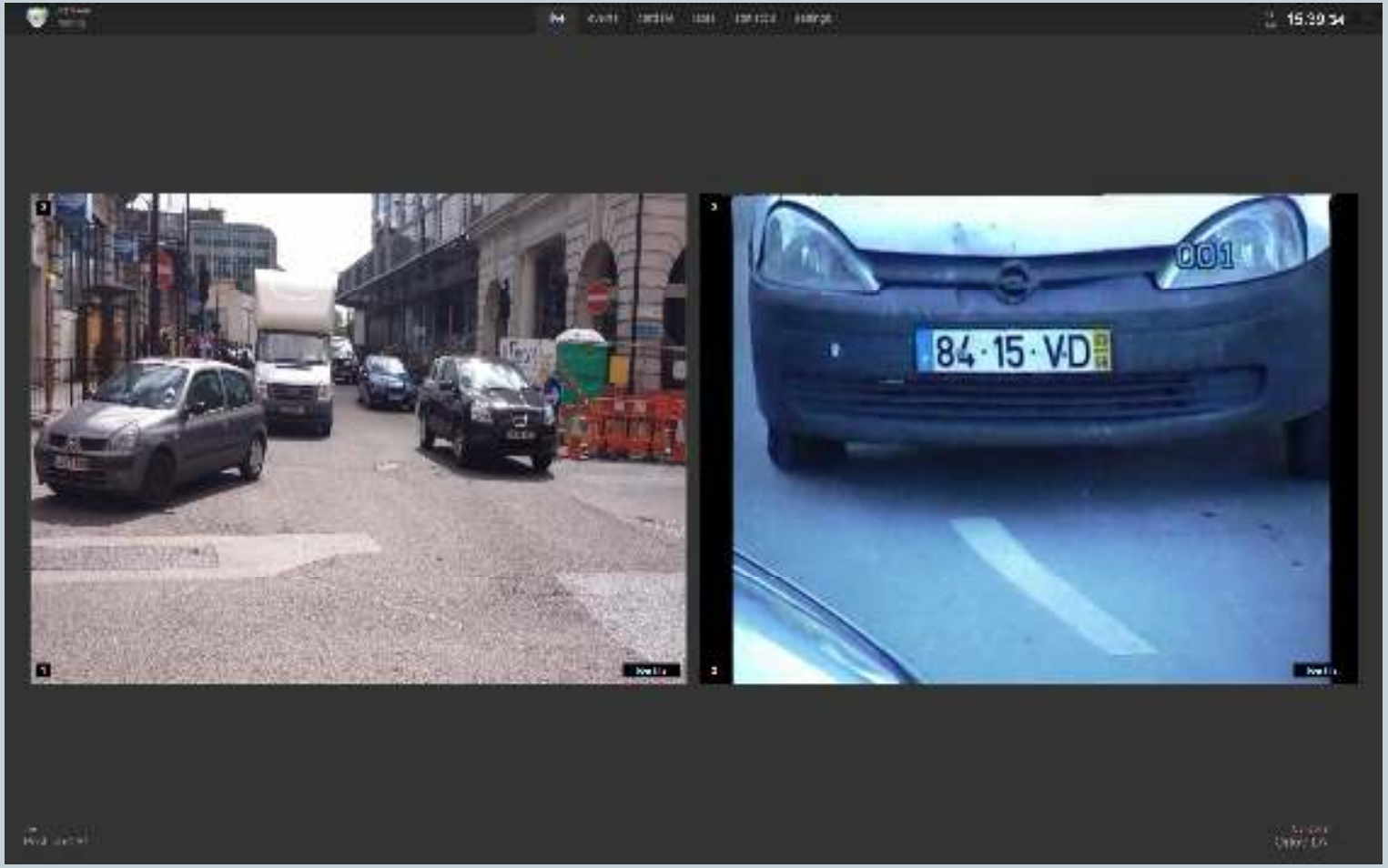


Metadata Search

- License plate search by keyword
- Rich filtering possibilities: time, number, channel etc.

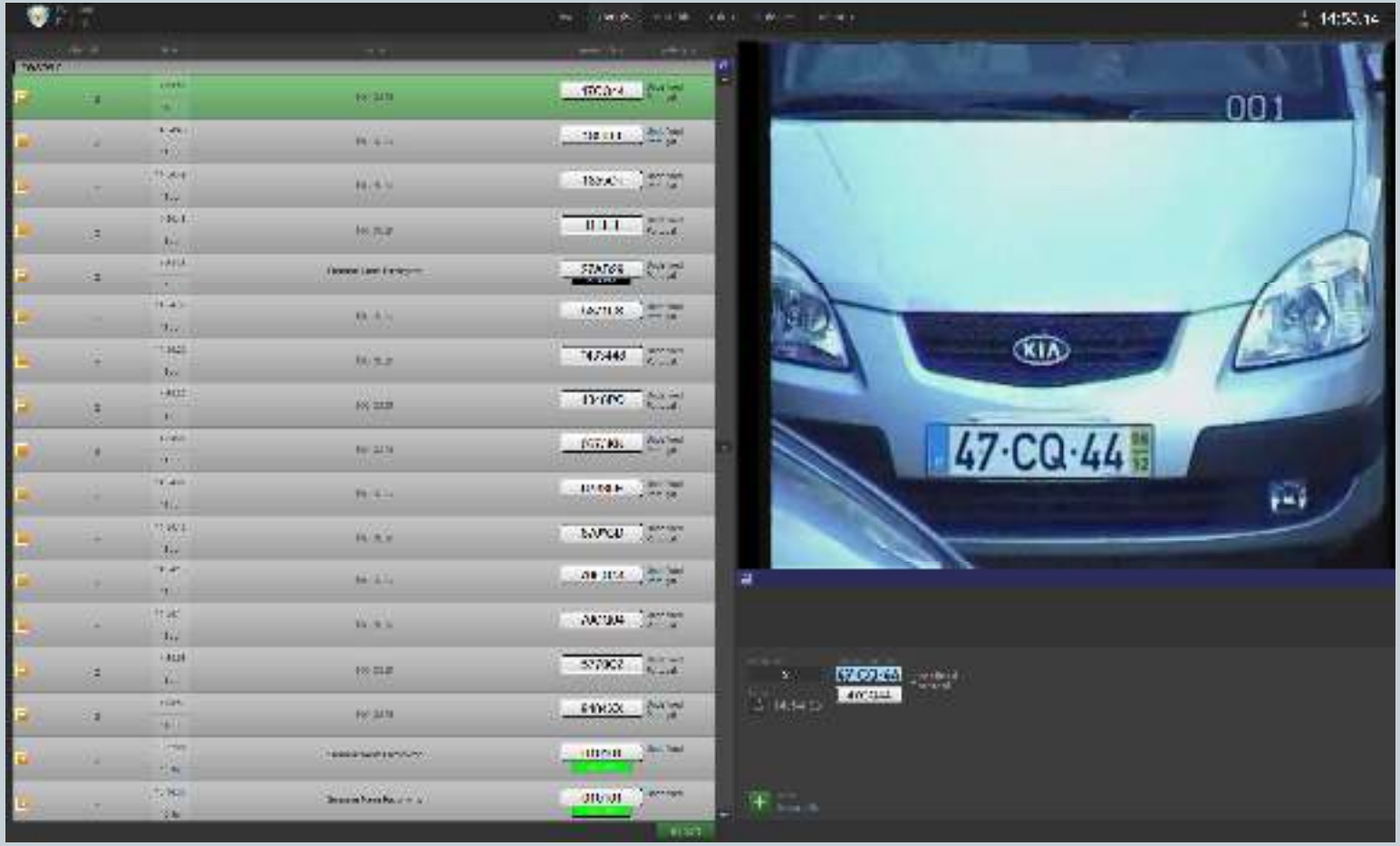


Tabs in Autocode. Live

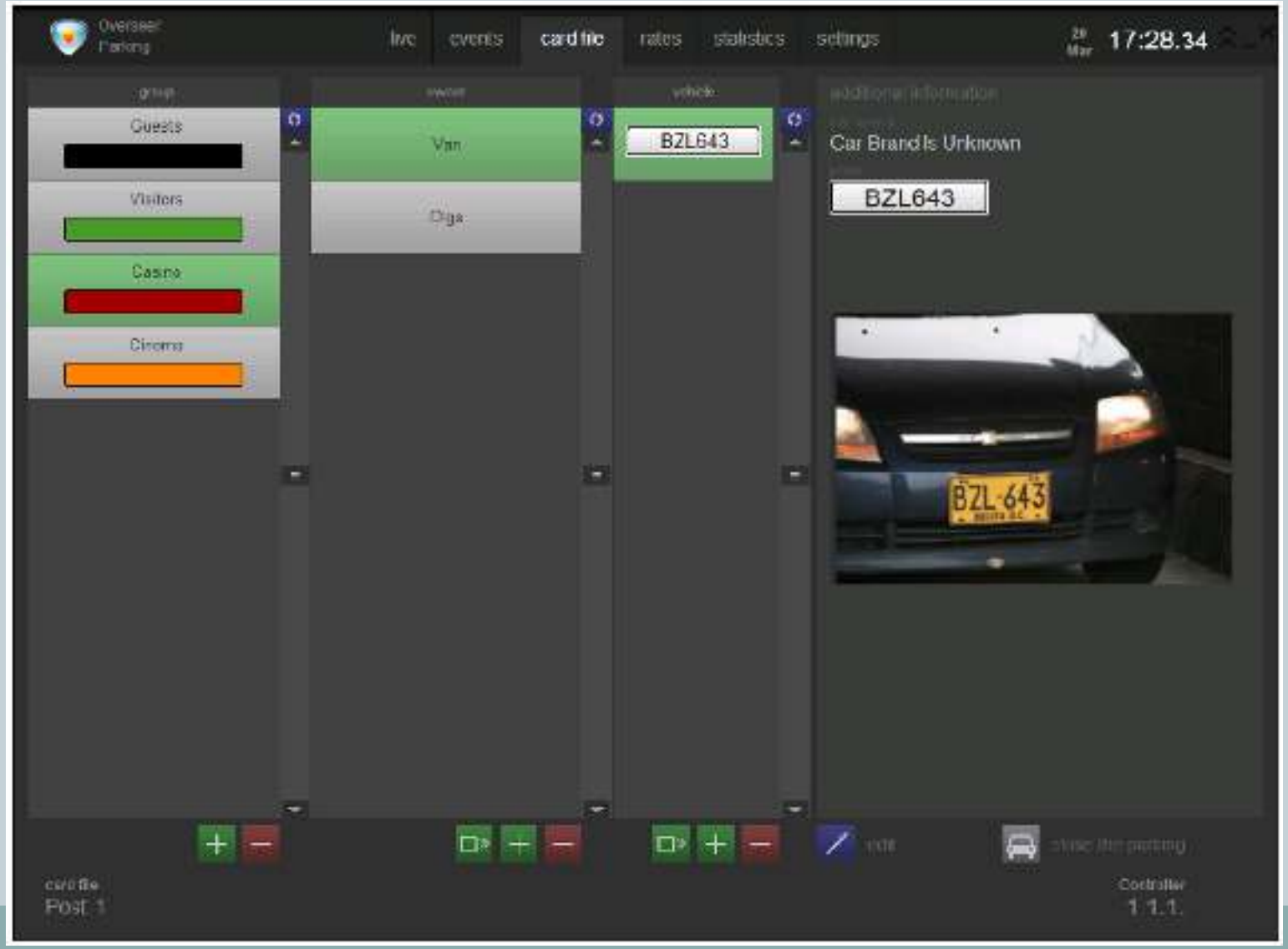


Tabs in Autocode. Events

- Filtering by event type, date, channel, license plate

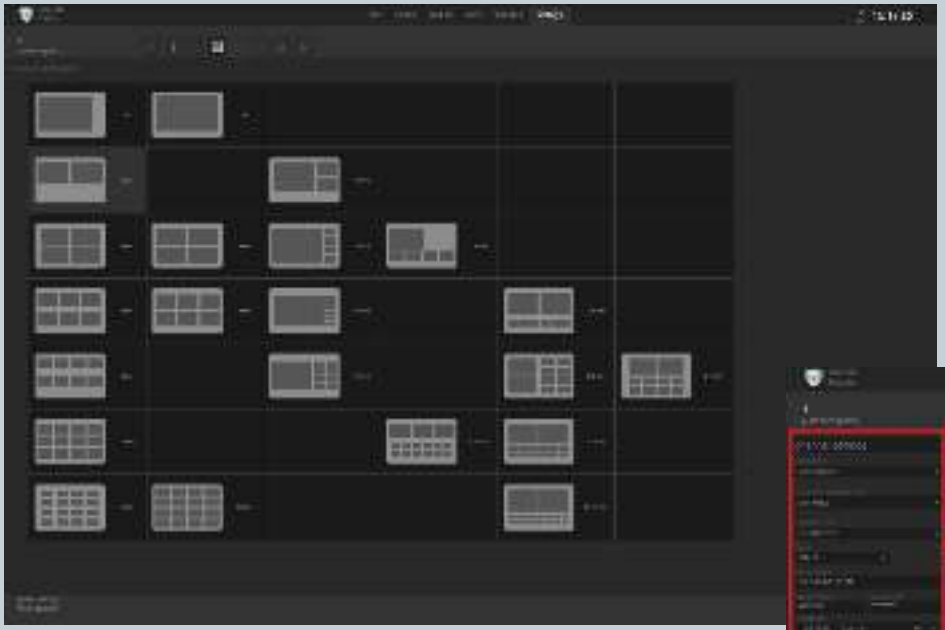


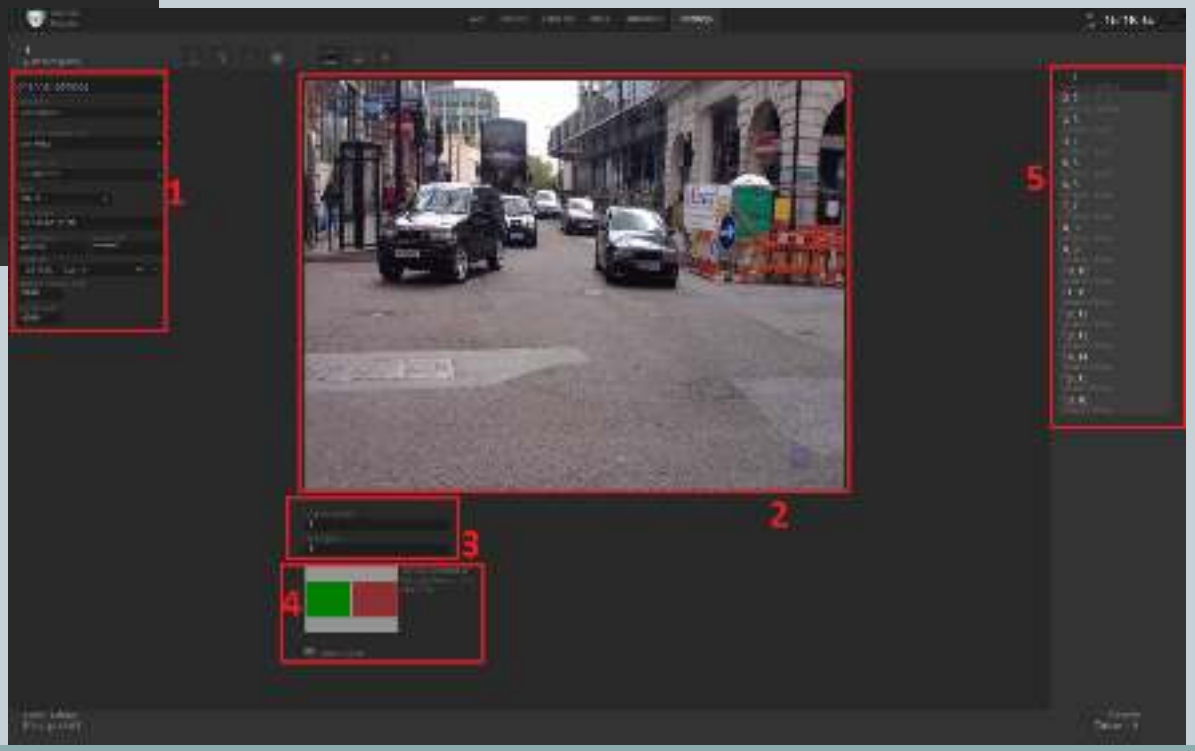
Tabs in Autocode. Card file



Tabs in Autocode. Statistics

Tabs in Autocode. Settings



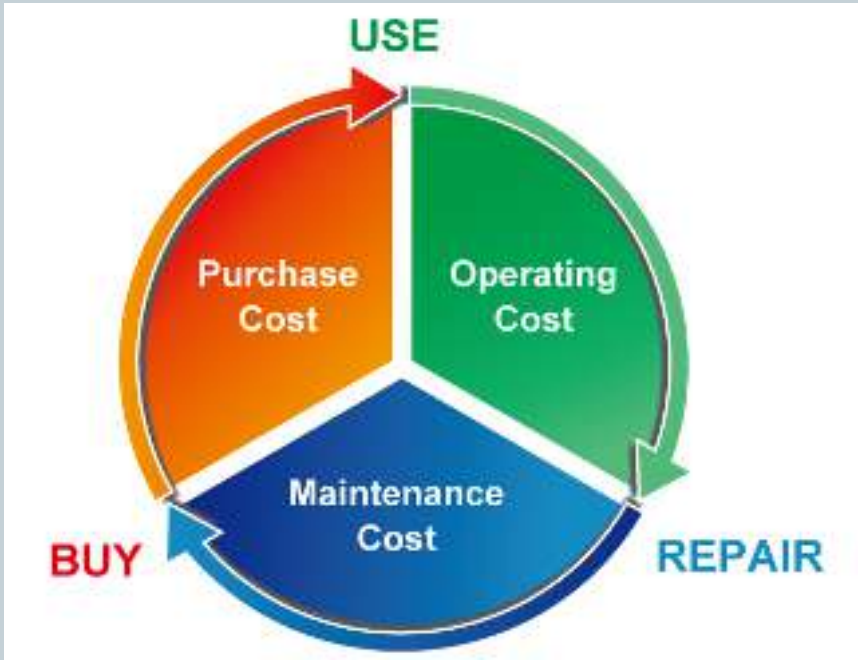


Licensing system

- Licenses needed:
  - VIT LPR Parking license or VIT LPR Traffic license
  - NUUO Mainconsole (IP+ or DVR card) license
  - SCB-IP-P-LPR license

No hidden costs!

- Pay only for 3 licenses mentioned, no hidden costs
- Support and upgrade to new version are free



The end

Thanks for attention!