Who manages territories often needs to make important decisions about traffic infrastructure and viabilities services; To do this, in order to choose the best way you need to have, as soon as possible, reliable informations. Vigilate products represent one of the best option that you can choose thanks to the great amount of functions and data they produce. All the data generated by the products are automatically linked to the platform, that collects and organizes all the information and makes them immediately available and easy to share with territorial or Smart City system administration app.

**URBAN ROAD SECURITY CONTROL**

The use of plate reading products allows you to create 24 gates capable of tracking anyone who enters and exits from the territory itself. This automatic and constant control, raises considerably the level of urban security and allows you to conduct strategic research destined to prevent crime. The possibility to have multiple research lists allows you to put in place differentiated strategies for the prevention of different phenomena whose management requires different kinds of approaches. You can activate alert lists related to the transit of hazardous goods (ADR Kemler Code), to know how many of them are present simultaneously in one area, how many statistically pass and so on.

**SOME EXAMPLES:**

- Search for suspicious or stolen vehicles placed in specific black list.
- ADR Kemler code control and risk analysis reporting
- Identification of vehicles without insurance or without periodic technical inspection

**MARKETS AND APPLICATIONS**

**INTELLIGENT TRAFFIC MANAGEMENT AND MONITORING (ITS)**

Vigilate products are one of the best option that you can choose thanks to the great amount of functions and data they produce. All the data generated by the products are automatically linked to the platform, that collects and organizes all the information and makes them immediately available and easy to share with territorial or Smart City system administration app. Smart City.

**SOME EXAMPLES:**

- Vehicle flow counting and control.
- Vehicles types statistics with traffic classification.
- Control of traffic distribution by origin / destination matrix
- Dwell - Time vehicle analysis
- Travel time analysis
**ACCESS CONTROL FOR PARKING, RESIDENTIAL OR UNATTENDED AREAS**

Vigilate traffic products, thanks to the wide range of protocols, methodologies, software and interfacing systems they are equipped, can be easily integrated into vehicle access control systems, parking lots management systems and access control to private facilities such as residence or hotel.

In this kind of systems Vigilate products are like a smart IP sensors capable to automate the process of vehicle recognition, able also to open and close barriers by itself.

**SOME EXAMPLES:**

- Automation of public and private car parks, port, airports, stations and other critical structures.
- Private entrance of company, industry sites, malls, shops, banks.
- Private residential areas, hotels, camping.

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**TOLLING AND ENFORCEMENT**

Vigilate traffic products can be integrated into enforcement system like: speed detection, red-light enforcement, average speed control systems etc.

Due to the high speed and accuracy of the OCR readings cameras, Vigilate products can be integrated in automatic tolling systems such as road and freeway, canalized or free flow.

**SOME EXAMPLES:**

- Traffic restricted area systems.
- Speed enforcement systems.
- Red light enforcement system.
- Free flow or stopping go tolling systems.
STAND ALONE

Vigilate devices can be used individually, as intelligent self-consistent systems, in a system dedicated to responding the one specific requirement such as, for example, the simple automatic opening of one gate when the plate of an authorized vehicle is read.

The product in this modality is used as an "intelligent sensor", capable of managing the automation of a gateway by itself.

With the configuration software installed on the board, any interfacing feature can be set with a browser. No external software platforms are required.

LOCAL

Often you need to manage multiple devices within one infrastructure that fits one IP system; for example a company, a neighborhood, a small town or a big city.

Vigilate products, in this case, can be centralized on a local server (Local Architecture) attested in a LAN.

In this scenario the products can be managed and monitored through a unique administration platform, a supervision panel and a general control of the system.
PRIVATE E PRIVATE CLOUD

The technological evolution of ANPR devices and their diffusion in the market make indispensable the presence of a totally scalable systems.
Still today for some people (for generational or cultural reasons), the concept of Cloud, generates fears, doubts and uncertainties;
In this period of technological and cultural changes, Vigilate offers a solution for any kind of private installations: connected to a private WAN (private Cloud), centralized on a server installed on a remote location (Housing) owned by the system owner.

PUBLIC CLOUD SAAS (SOFTWARE AS A SERVICE)

Sharing informations is always more important in the world of traffic management and security.
The modern Systems for traffic control and surveillance, distributed across the country, must cooperate and interchange data among them and among as always growing number of users; Vigilate allows to use its products even within one infrastructure complex and scalable like a public cloud computing.
Vigilate through a SAAS provides the possibility to implement multiple installations connected to a Cloud As A Service platform.
In this configuration, you have the device management software Paying only a monthly fee for using the platform.
V-PLATE SERIES, ANPR READERS
FOR TRAFFIC ANALYSIS AND CONTROL

A FULL RANGE OF PRODUCTS
A full range of products
From 0 to 250 km/h
Resolutions 1-2-5 Mpixel
SSD on board, from 128GB to 1TB
Up to 75 fps
Up to 35m working distance

OCR & VIDEO-ANALYSIS
OCR library on board with 27 EU countries
Many other non-EU countries
Arabic characters OCR
ADR Kemler Codes
BIC Codes
Speed estimation function

OPEN INTEGRATION & PROTOCOLS
v-SUITE, Milestone, Genetec, Prassel, Arteco, BSEC.
Many data transmission protocols FTP, RPC-XML, TCP,
XML, Digital outputs
<table>
<thead>
<tr>
<th>TECHNICAL FEATURES</th>
</tr>
</thead>
</table>

### FREE FLOW LIMIT & N° Lanes
- **PLATE A0**: 30 Km/h - 1 Lane
- **PLATE A1**: 160 Km/h - 1 Lane
- **PLATE A2**: 200 Km/h - 1 Lane
- **PLATE A2 HD**: 200 Km/h - 1 Lane
- **PLATE A5**: 250 Km/h - 2 Lanes

### SENSOR
- **PLATE A0**: 1280 x 960 CMOS OCR BW camera
- **PLATE A1**: 1280 x 960 CMOS OCR BW camera
- **PLATE A2**: 1600 x 1200 CMOS OCR BW camera
- **PLATE A2 HD**: 1920 x 1080 CMOS OCR BW camera
- **PLATE A5**: 2560 x 2048 CMOS OCR BW camera

### GRABBING
- **PLATE A0**: Up to 60 fps
- **PLATE A1**: Up to 60 fps
- **PLATE A2**: Up to 60 fps
- **PLATE A2 HD**: Up to 75 fps
- **PLATE A5**: Up to 75 fps

### OPTICALS
- **PLATE A0**: Standard S mount lens
- **PLATE A1**: Standard C mount lens
- **PLATE A2**: Standard C mount lens
- **PLATE A2 HD**: Standard C mount lens
- **PLATE A5**: Standard C mount lens

### DAY & NIGHT
- **PLATE A0**: IR Cut
- **PLATE A1**: IR Cut
- **PLATE A2**: IR Cut
- **PLATE A2 HD**: IR Cut
- **PLATE A5**: IR Cut

### PROCESSOR & OS
- **PLATE A0**: ARM 466 MHz + HW VIDEO ENCODER unit - Linux
- **PLATE A1**: ARM 1.2GHZ QUADCORE + HW VIDEO ENCODER unit - Linux
- **PLATE A2**: ARM 1.2GHZ QUADCORE + HW VIDEO ENCODER unit - Microsoft® Windows Embedded
- **PLATE A2 HD**: 2GHz Quadcore + HW VIDEO ENCODER unit - Microsoft® Windows Embedded
- **PLATE A5**: 2GHz Quadcore + HW VIDEO ENCODER unit - Microsoft® Windows Embedded

### MEMORY
- **PLATE A0**: 256 Mbyte RAM
- **PLATE A1**: 1Gb iNAND Flash
- **PLATE A2**: 2GB RAM, 4GB iNAND Flash
- **PLATE A2 HD**: 8GB RAM
- **PLATE A5**: 8GB RAM

### STORAGE
- **PLATE A0**: uSD 16GB
- **PLATE A1**: uSD 16GB up to 32GB (SSD OPTION)
- **PLATE A2**: uSD 16GB up to 64GB (SSD OPTION)
- **PLATE A2 HD**: HD SSD 128 GB (up to 1TB)
- **PLATE A5**: HD SSD 128 GB (up to 1TB)

### I/O
- **PLATE A0**: N°3 Input PNP 5-30Vdc optoisolated, N°2 Output relay
- **PLATE A1**: N°2 Input PNP 5-30Vdc optoisolated, N°1 Output relay, N°1 Output TTL Strobe Light 3,3V
- **PLATE A2**: N°2 Input PNP 5-30Vdc optoisolated, N°1 Output relay, N°1 Output TTL Strobe Light 3,3V
- **PLATE A2 HD**: N°3 Input PNP 5-30Vdc optoisolated, N°2 Output relay
- **PLATE A5**: N°3 Input PNP 5-30Vdc optoisolated, N°2 Output relay

### LAN & PORT
- **PLATE A0**: N°1 10/100 Eth. port, N°1 RS-232 port
- **PLATE A1**: N°1 10/100/1000 Ethernet, N°1 RS-232
- **PLATE A2**: N°1 10/100/1000 Ethernet, N°1 RS-232
- **PLATE A2 HD**: N°1 10/100/1000 Ethernet, N°1 RS-232
- **PLATE A5**: N°1 10/100/1000 Ethernet, N°1 RS-232

### STREAMING
- **PLATE A0**: OCR Camera: MJPEG
- **PLATE A1**: OCR Camera: MJPEG
- **PLATE A2**: OCR Camera: MJPEG
- **PLATE A2 HD**: OCR Camera: MJPEG
- **PLATE A5**: OCR Camera: MJPEG

### SENSING
- **PLATE A0**: Accelerometers, Temperature, Humidity, Consumption, Inclinometer
- **PLATE A1**: Accelerometers, Temperature, Humidity, Consumption, Inclinometer
- **PLATE A2**: Accelerometers, Temperature, Humidity, Consumption, Inclinometer
- **PLATE A2 HD**: Accelerometers, Temperature, Humidity, Consumption, Inclinometer
- **PLATE A5**: Accelerometers, Temperature, Humidity, Consumption, Inclinometer

### PROTOCOLS
- **PLATE A0**: FTP, XML-RPC (on HTTP), TCP
- **PLATE A1**: FTP, XML-RPC (on HTTP), TCP
- **PLATE A2**: FTP, XML-RPC (on HTTP), TCP
- **PLATE A2 HD**: FTP, XML-RPC (on HTTP), TCP
- **PLATE A5**: FTP, XML-RPC (on HTTP), TCP

### OCR LIBRARIES
- **PLATE A0**: 27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates
- **PLATE A1**: 27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates
- **PLATE A2**: 27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates
- **PLATE A2 HD**: 27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates
- **PLATE A5**: 27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates

### SPEED ESTIMATION
- **PLATE A0**: Speed estimation with video analysis algorithm
- **PLATE A1**: Speed estimation with video analysis algorithm
- **PLATE A2**: Speed estimation with video analysis algorithm
- **PLATE A2 HD**: Speed estimation with video analysis algorithm
- **PLATE A5**: Speed estimation with video analysis algorithm

### POWER SUPPLY
- **PLATE A0**: +12VDC 8W or IEEE 802.3af PoE
- **PLATE A1**: +24VDC 2.5A 10W typically or Ultra PoE 60W 6th Class
- **PLATE A2**: +24VDC 2.5A 10W typically or Ultra PoE 60W 6th Class
- **PLATE A2 HD**: +24VDC 5A 20W typically
- **PLATE A5**: +24VDC 5A 20W typically

### DIMENSION & WEIGHT
- **PLATE A0**: 120 X 120 X 110 mm - 750 g
- **PLATE A1**: 168 x 112 x 250 mm - 3,25 Kg
- **PLATE A2**: 168 x 112 x 250 mm - 3,25 Kg
- **PLATE A2 HD**: 350 x 270 x 165 mm - 6 Kg
- **PLATE A5**: 350 x 270 x 165 mm - 6 Kg

### OPERATING TEMPERATURE
- **PLATE A0**: -20°C / 55°C
- **PLATE A1**: -30°C / 60°C
- **PLATE A2**: -30°C / 60°C
- **PLATE A2 HD**: -30°C / 55°C
- **PLATE A5**: -30°C / 55°C

### HUMIDITY
- **PLATE A0**: 90% Relative humidity non condensing
- **PLATE A1**: 90% Relative humidity non condensing
- **PLATE A2**: 90% Relative humidity non condensing
- **PLATE A2 HD**: 90% Relative humidity non condensing
- **PLATE A5**: 90% Relative humidity non condensing

### PROTECTION
- **PLATE A0**: IP66
- **PLATE A1**: IP66
- **PLATE A2**: IP66
- **PLATE A2 HD**: IP66
- **PLATE A5**: IP66

### ILLUMINATOR
- **PLATE A0**: CLASS 1M CEI EN 69825-1 ED. 4, 850 nm IR LED
- **PLATE A1**: CLASS 1M CEI EN 69825-1 ED. 4, 850 nm IR LED
- **PLATE A2**: CLASS 1M CEI EN 69825-1 ED. 4, 850 nm IR LED
- **PLATE A2 HD**: CLASS 1M CEI EN 62471, 850 nm IR LED, Combination (IR-IR)
- **PLATE A5**: CLASS 1M CEI EN 62471, 850 nm IR LED, Combination (IR-IR)
In addition to this powerful and solid hardware, designed and built to photograph as well as possible all the plates, Vigilate ANPR products are also featuring a powerful application software, capable to be set, using only an easy graphical web interface that let you to configure it easily. The products is equipped with one of the most powerful OCR recognition library on the market today. The OCR library recognizes the plates of 27 EU countries and many other countries, including those with Arabic fonts, codes of dangerous goods (ADR Kemler Code).

**OCR LIBRARY**

<table>
<thead>
<tr>
<th>Feature</th>
<th>A0</th>
<th>A1</th>
<th>A2</th>
<th>A2 HD</th>
<th>A5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading angle up to 50 °</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Second OCR library on board (optional)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3G Lte on board (optional)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Second lighter</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OCR**

Full OCR library with 27 EU nations, many non-EU nations, ADR Kemler Code (dangerous goods), Arabic characters. One of the best percentage of plate recognition in the market. The algorithm works on a sequence of images taken from the OCR camera, detected with different optical parameters.

**VEHICLE SPEED ESTIMATION**

Based on the video analysis that detects vehicle displacement in the image, v-PLATE is capable to estimate speed with a percentage of error around 10%. This survey allows you to have a reliable guidance on the trend of average speeds traffic throughout the day.
Vigilate offers the possibility to use a simulation tool, very useful for understanding the installation issues and commissioning of the products. The software is designed to help customers to reach the best possible configuration for the optics, in order to operate effective applications.

- Reproduces the design geometry
- Automatic product and best optics search
- Check and find the best inclinations (PAN, TILT) for your installation
- Simulates the whole installation in order to test its effectiveness

Vigilate license plate readers are equipped with the configuration software accessible from all the Web Browser. Quickly and easily, through an intuitive interface, the plate recognition properties, can be configured and customized. The configurator also offers a menu in which you can check all the transit and statistics of all the operation and theirs effectiveness, obviously related to the product and to the installation.
V-LANE SERIES, EVOLUTION FROM PLATE READING PRODUCT TO A SMART CAMERA FOR ROAD TRAFFIC ANALYSIS & VIDEO SURVEILLANCE

LANE MANAGER
DUAL LENS CAMERAS

TRAFFIC VIDEO-ANALYSIS
OCR library on board with 27 EU countries. Many other non-EU countries. Arabic characters OCR. ADR Kemler Codes. BIC Codes. Speed estimation function. Vehicle classification in 5 vehicle type classes. Vehicle classification in 6 colors.

VEHICLES FLOW ANALYSIS & ALARMS

SECURITY
Real time dual streaming video cameras. RTSP h264 can be integrated into every PSIM platform. Integrated internal DVR function recording, continuous or on transit event. Configurable recording time by the user, in accordance with local privacy law.
## TECHNICAL FEATURES

<table>
<thead>
<tr>
<th><strong>-LANE A1</strong></th>
<th><strong>-LANE A2</strong></th>
<th><strong>-LANE A2HD</strong></th>
<th><strong>-LANE A5</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FREE FLOW LIMIT &amp; N° Lanes</strong></td>
<td>160 km/h - 1 Lane</td>
<td>200 km/h - 1 Lane</td>
<td>200 km/h - 1 Lane</td>
</tr>
<tr>
<td><strong>SENSOR1</strong></td>
<td>1280 x 960 CMOS OCR BW camera</td>
<td>1600 x 1200 CMOS OCR BW camera</td>
<td>1920 x 1080 CMOS OCR BW camera</td>
</tr>
<tr>
<td><strong>SENSOR2</strong></td>
<td>1280 x 960 CMOS COLOR camera</td>
<td>1600 x 1200 CMOS COLOR camera</td>
<td>1920 x 1080 CMOS COLOR camera</td>
</tr>
<tr>
<td><strong>GRABBING</strong></td>
<td>Up to 60 fps</td>
<td>Up to 60 fps</td>
<td>Up to 60 fps</td>
</tr>
<tr>
<td><strong>OPTICALS</strong></td>
<td>Standard C mount lens</td>
<td>Standard C mount lens</td>
<td>Standard C mount lens</td>
</tr>
<tr>
<td><strong>DAY &amp; NIGHT</strong></td>
<td>IR Cut &amp; Neutral mechanical filter</td>
<td>IR Cut &amp; Neutral mechanical filter</td>
<td>IR Cut &amp; Neutral mechanical filter</td>
</tr>
<tr>
<td><strong>PROCESSOR</strong></td>
<td>ARM 1.2GHZ QUADCORE + HW VIDEO ENCODER unit</td>
<td>ARM 1.2GHZ QUADCORE + HW VIDEO ENCODER unit</td>
<td>2GHz Quadcore + HW VIDEO ENCODER unit</td>
</tr>
<tr>
<td><strong>MEMORY</strong></td>
<td>2GB RAM, 4GB INAND Flash</td>
<td>2GB RAM, 4GB INAND Flash</td>
<td>8GB RAM</td>
</tr>
<tr>
<td><strong>OS</strong></td>
<td>Linux</td>
<td>Linux</td>
<td>MICROSOFT® WINDOWS Embedded</td>
</tr>
<tr>
<td><strong>STORAGE</strong></td>
<td>uSD 16GB up to 32GB (SSD OPTION)</td>
<td>uSD 16GB up to 64GB (SSD OPTION)</td>
<td>HD SSD 128 GB (up to 1TB)</td>
</tr>
<tr>
<td><strong>I/O</strong></td>
<td>N°2 Input PNP 5-30Vdc optoisolated, N°1 Output relay, N°1 Output TTL Strobe Light 3,3V</td>
<td>N°2 Input PNP 5-30Vdc optoisolated, N°1 Output relay, N°1 Output TTL Strobe Light 3,3V</td>
<td>N°3 Input PNP 5-30Vdc optoisolated, N°2 Output relay</td>
</tr>
<tr>
<td><strong>LAN &amp; PORT</strong></td>
<td>N°1 10/100/1000 Ethernet, N°1 RS-232</td>
<td>N°1 10/100/1000 Ethernet, N°1 RS-232</td>
<td>N°1 10/100/1000 Ethernet, N°1 RS-232</td>
</tr>
<tr>
<td><strong>STREAMING</strong></td>
<td>OCR Cam: MIPEG - COLOR Cam: MIPEG, H264, RTSP</td>
<td>OCR Cam: MIPEG, COLOR Cam: MIPEG, H264, RTSP</td>
<td>OCR Cam: MIPEG, COLOR Cam: MIPEG, H264, RTSP</td>
</tr>
<tr>
<td><strong>SENSING</strong></td>
<td>Accelerometers, Temperature, Humidity, Consumption, Inclinometer</td>
<td>Accelerometers, Temperature, Humidity, Consumption, Inclinometer</td>
<td>Accelerometers, Temperature, Humidity, Consumption, Inclinometer</td>
</tr>
<tr>
<td><strong>PROTOCOLS</strong></td>
<td>FTP, XML-RPC (on HTTP), TCP</td>
<td>FTP, XML-RPC (on HTTP), TCP</td>
<td>FTP, XML-RPC (on HTTP), TCP</td>
</tr>
<tr>
<td><strong>OCR LIBRARIES</strong></td>
<td>27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates</td>
<td>27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates</td>
<td>27 EU countries, many countries extra EU, Kemler code (dangerous goods), Arabic characters, Italian special plates</td>
</tr>
<tr>
<td><strong>VEHICLES CLASSIFICATION</strong></td>
<td>Truck, Bus, Car, Motorvehicles, medium size vehicles</td>
<td>Truck, Bus, Car, Motorvehicles, medium size vehicles</td>
<td>Truck, Bus, Car, Motorvehicles, medium size vehicles</td>
</tr>
<tr>
<td><strong>COLOR CLASSIFICATION</strong></td>
<td>6 colors classification: white, grey, red, blue, black, yellow with daylight condition</td>
<td>6 colors classification: white, grey, red, blue, black, yellow with daylight condition</td>
<td>6 colors classification: white, grey, red, blue, black, yellow with daylight condition</td>
</tr>
<tr>
<td><strong>TRAFFIC FLOW ANALYSIS</strong></td>
<td>Slow traffic, queue, vehicle stationary in the road, vehicle in the wrong direction</td>
<td>Slow traffic, queue, vehicle stationary in the road, vehicle in the wrong direction</td>
<td>Slow traffic, queue, vehicle stationary in the road, vehicle in the wrong direction</td>
</tr>
<tr>
<td><strong>TVCC</strong></td>
<td>H24 color video recording for CCTV systems</td>
<td>H24 color video recording for CCTV systems</td>
<td>H24 color video recording for CCTV systems</td>
</tr>
<tr>
<td><strong>SPEED ESTIMATION</strong></td>
<td>Speed estimation with video analysis algorithm</td>
<td>Speed estimation with video analysis algorithm</td>
<td>Speed estimation with video analysis algorithm</td>
</tr>
<tr>
<td><strong>POWER SUPPLY</strong></td>
<td>+24VDC 2.5A 10W typically or Ultra PoE 60W 6th Class</td>
<td>+24VDC 2.5A 10W typically or Ultra PoE 60W 6th Class</td>
<td>+24 VDC 5A 20W typically</td>
</tr>
<tr>
<td><strong>DIMENSION &amp; WEIGHT</strong></td>
<td>168 x 112 x 250 mm - 3.25 Kg</td>
<td>168 x 112 x 250 mm - 3.25 Kg</td>
<td>350 x 270 x 165 mm - 6 Kg</td>
</tr>
<tr>
<td><strong>OPERATING TEMPERATURE</strong></td>
<td>-30°C / 60°C</td>
<td>-30°C / 60°C</td>
<td>-30°C / 55°C</td>
</tr>
<tr>
<td><strong>HUMIDITY &amp; PROTECTION</strong></td>
<td>90% Relative humidity non condensing, IP66</td>
<td>90% Relative humidity non condensing, IP66</td>
<td>90% Relative humidity non condensing, IP66</td>
</tr>
<tr>
<td><strong>ILLUMINATOR</strong></td>
<td>CLASS 1M CEI EN 69825-1 ED. 4, 850 nm IR LED</td>
<td>CLASS 1M CEI EN 69825-1 ED. 4, 850 nm IR LED</td>
<td>CLASS 1M CEI EN 62471, 850 nm IR LED or WHITE Illuminator, Combination (IR-IR, IR-WHITE, WHI-TE-WHITE)</td>
</tr>
</tbody>
</table>
The v-LANE series offers a complete set of features that make it a unique product of its kind, a single device capable of: controlling, analyzing and supervising security and traffic flow. All the additional features for reading the license plates are operated on the color camera that produces contextual images. This functions are obtained by the use of neural software capable of learning the application context and obtaining excellent levels of functional reliability.

**COLOR CLASSIFICATION**

Thanks to one sophisticated Vigilate algorithm, the device can recognize six chromatic dominances such as: white, grey, red, blue, black, yellow.

The algorithm works in conditions of daylight and can also be trained with night light. In this case, the algorithm can function more or less well depending on the quality and quantity of light produced by the artificial illumination.

**CLASSIFICATION OF VEHICLE TYPE**

v-LANE is also equipped with an algorithm that classified the vehicle typology.

Through the analysis of the image, the camera recognize the shape of the vehicle present in the image of context, the camera is able to classify five types of vehicles such as: Trucks, Buses, Cars, Motor Vehicles, Medium-sized Vehicles (van, pick-up, SUV, pickup truck).

The algorithm works in daylight and can be also trained with light if the set-up is adequate illuminated.

**AUTOMATIC NUMBER PLATE RECOGNITION**

v-LANE hosts a full OCR library with 27 EU nations, several non-EU nations, ADR Kemler code (dangerous goods), Arabic characters.

v-LANE has one of the best percentage of plate recognition in the market. The algorithm works on a sequence of images taken from the OCR camera, detected with different optical parameters and contributes to create the plate. This approach of acquisition allows to read effectively even in the presence of low contrast plates or dirty plates or even dazzled plates from reflections.
There can’t be intelligence without computing power, for this reason the new v-LANE products have been equipped with a remarkably high performance hardware which ensures the simultaneous execution of various software applications that can generate multiple analysis on the same set of images. v-LANE can guarantee the correct operation, in the same time, of all the functions that it is capable. Even the massive storage of onboard information has been designed to ensure peak performance with storage capacity up to 1 TB. All product hardware technologies have been developed with a high criteria of functional reliability also in extreme temperature context.

**ESTIMATION OF THE SPEED**

Based on the video analysis that detects vehicle displacement in the image, v-LANE is capable to estimate its speed with a percentage of error around 10%. This survey allows you to have a reliable guidance on the trend of average speeds traffic throughout the day. This data can highlight the moment when the road are congestionated, when all average transit speeds are lowered, or, for example, during nighttime, the traffic usually exceeds the speed limits of the roadway and produce dangerous situations.

**TRAFFIC ANALYSIS & ALARMS**

With a complete set of video-analysis algorithms of the AIDF type, v-LANE can operate a control of the roadside near the gateway, detecting a series of phenomena such as slow traffic, queue, vehicle stopping in the street, vehicle counter, smoke / fog presence, pedestrian nearby of the gateway (if forbidden). In addition to this, v-LANE also produces a series of typical statistics of installations AID, such as: vehicle count, vehicle classification, lane occupancy rate.

**CCTV VIDEO SURVEILLANCE**

The v-LANE device comes with a color camera used to capture contextual images. Images provide more information about vehicle transit and can be viewed in streaming real-time as a normal video surveillance camera. The device can be used as an NVR system, the duration of the recordings can be set by the user in order to comply with the privacy requirements regarding the installation being carried out.
EVOLUTIONARY SCENARIOS OF LICENSE PLATE READING AND TRAFFIC CONTROL APPLICATIONS

Vigilate goes beyond ahead to the classic paradigms of the ANPR camera and introduces a new concept for the products: virtualize traffic phenomena and transforming them into data that can be easily related to the territory. The goal of this new philosophy is to be able to represent all the typical features of traffic control and security in a virtualized way.

Plate Reading + Surveillance IP Camera + Control of traffic + Classification all available as data in a digital form.

Our way is to offer always new solutions and new sources of information to the market, we want to offer a technological proposition aimed to generate always more and more useful and objective data, an increasingly rich source of "advice" for road managing and safety.

The quality of any decisions depends by the quality of the information to you own, the importance of the data exceeds the one of the object that generates them self, the new technological proposition of Vigilate is to accelerate towards the future and the knowledge.

The goal of Vigilate products is to generate and digitize all the information that a roadway can be provide.

All the territorial management software, from those PSIM security to Smart City platforms, can use the data to better understand various phenomenons in their territories.

VIGILATE PRESENTS THE NEW TRAFFIC PRODUCT PORTFOLIO IT IS NOT JUST FEATURES BUT TOOLS OF PRODUCTION OF OBJECTIVE DATA, NOT ONLY PERFORMANCE BUT TRAFFIC DATA PRODUCTION FOR DECISION SUPPORT SYSTEMS.
The data generated by the new devices to be really helpful must be easy managed in a simple and effective way. For this purpose Vigilate has created a platform B to B, thought to be used by system integration companies and it is wide accessible, faster, easy to integrate into their own applications and their systemic achievements. The platform called v-SUITE encloses one series of vertical applications dedicated to: data management, security, traffic, diagnostic tools and tools for the remote support of your installations. v-SUITE designed and built for the System Integrators can offer to their own customers all the new features of the VIGILATE products and take advantage of the information of products to expand their horizons of applications and their business.
MANAGE TRAFFIC WITH XSCANNER
The ultimate Software for managing and supervising plate reading products, an instrument complete and effective to manage multi-device systems.

MANAGE SECURITY WITH XENTINEL
The built-in, modern, scalable, cloud-based security software can easily handle the devices and installations that make up modern security infrastructures such as: video surveillance, access control, intrusion systems, fire fighting systems, and so on.

ANALYZE DATA WITH ANALYTICS
The Vigilate Web analytics service allows you to analyze detailed metadata statistics from Vigilate products and more. The service is aimed primarily to anyone who can make strategic decisions and have need to clear and detailed view of what is going on.

SUPERVISE THE OPERATION OF DEVICES WITH DIAGNOSTICS
Your control panel is to supervise operating status of all the equipment in the field. The v-Supervisor service allows you to be constantly informed about the correct functioning of the devices and intervene in case of technical unforeseen events.

CONFIGURE DEVICES WITH CONFIGURATOR
The installation and configuration phase is always very delicate, Vigilate has a universal instrument that allow you to remotely configure products installed on the field. V-Configurator is the ideal tool for configuring and maintaining the best settings for all the device.
A SINGLE SUITE OF PRODUCTS WITH ALL THE BEST MANAGEMENT TOOLS FOR SECURITY AND TRAFFIC CONTROL

BROWSE YOUR DEVICES WITH EXPLORER
Keep your devices under control through a fast and accessible service of geographical display on the universal map where are geolocated all the various Vigilate (and not only) products.

DESIGN YOUR INSTALLATIONS WITH SIMULATOR
Determining the optics and the exact spot where you can install your own Traffic CAM is always difficult, Vigilate helps you with a quick and intuitive Web Service, a 3D simulator that allow you to preview the quality of the installation in function of the camera position and inclination.

DOCUMENTED WITH LEARNING
The Vigilate didactic center, all that you need to know about Vigilate products, is an helping desk for system integrators and system administrators who need help or assistance.

INTEGRATE YOUR SOFTWARE WITH INTEGRATOR
There is no system that does not have to send the information generated to a supervisor, integrating and sharing are the focus of the new Economy and therefore Vigilate offers you a system for communicating with your own devices through a "Layer" service server interfacing protocols.
V-SUITE IS A SERVICE USED TO MANAGE LICENSE PLATE READING AND TERRITORY CONTROL.

Xscanner is a service delivered through v-suite, a web / cloud based software, simple and intuitive. Xscanner is dedicated to manage the ANPR cameras from which collects many data related to the transit of all the vehicle and focusing all of that information in one environment.

RESEARCH OF PLATE AND DANGEROUS GOODS

• Store images and transit data from reading equipment plate.
• Store any contextual images associated with transit.
• Researches plate through the number plate although incomplete.
• Search a vehicle by type (motorcycles, cars, trucks without trailer, trailer truck).
• Handles lists or groups of vehicle lists, associated with alarms and send them to the police by sms and email.
• Search a vehicle using heavy duty ADR (Kemler) that classify the goods carried: transport of dangerous goods (explosives, corrosive, particularly polluting for the environment, radioactive)
• Search by type of ADR code.
• Handles alarm events when passing media with ADR code or specific category of ADR code
• Report wanted vehicles can send SMS or email.

VERIFICATION OF THE LICENSE PLATES WITH MOTORIZED DATABASE
Conveying all the information in one point allows Analytics to perform complex analysis and data researches in order to make strategic decisions. The data analysis help the city road management, speed up investigative actions, thus increase public security.

- Performs a partial and consolidated count of the number of vehicles in transit, also divided by individual vehicle type.
- View charts of average crossover speed on time bases.
- View chart of vehicles classification.
- License plates counting by country
- Calculates the vehicle permanence time within the inhabited area
- Displays vehicle fleet seniority on an annual basis.
- Classify vehicles according to the EURO pollutant class (The classification for year of registration and EURO class are also active in the absence of link to external databases)
- Performs comparable tables of Origin and Destination
Diagnostics is a service provided through v-Suite, its composed of a series of functional Dashboard with the purpose of monitoring the operating status of the installed devices.

**PERFORMANCE MONITORING**

- General diagnostics and alarm signaling on exceeding set thresholds
- Update status of products
- Available / busy storage space
- Device temperatures
- Processor use
- Memory usage
- Communication channel status
- Performance analysis
- Analysis of operating status
- Control of the application effectiveness over time

**MANAGEMENT OF SYSTEM CRITICAL ISSUES**

**DIAGNOSTICS OF FUNCTIONAL PARAMETERS**

**UPDATE STATUS**
Configurator is a service provided through v-Suite that allows the centralization of all configuration processes and makes mass modifications on the installed devices.

**SYSTEM PARAMETERS**
- General status of the installed fleet
- Massive privacy settings management
- General configuration level
- User profile management
- System Parameters
- Base and Advanced OCR Parameters
- Calibrate video analysis algorithms
- Configure data interchange protocols
- Event and action management
- Firmware updates and updates
- Stream video monitoring
- Restore and restart

**PRIVACY SETTINGS**

**CALIBRATION ALGORITHMS**

**COMMUNICATION AND PROTOCOLS**
PRODUCTS AND SERVICES DEDICATED TO MODERN SYSTEMS

- INTELLIGENT CAMERAS
- INTELLIGENT DVR
- PLATE READERS
- BIOMETRIC DEVICES
- CLOUD PLATFORMS
VIGILATE

Vigilate is an Italian company operating in the fields of Security and Traffic Control, specialized in the production of technology products and image analysis software. Vigilate was founded in 2016 by a management buy-out operation of ETH Security, which was formed in 2012 by the Eurotech Group Spa. Since then, Vigilate has been steadily growing rapidly both in terms of turnover and sales of employees and today boasts a team of 25 highly skilled and innovation-oriented professionals, led by a management company that has been active in the field of security technology products and traffic for more than 20 years, during which it has created and grows different successful companies still in the market. Vigilate is the ideal partner for those who want to integrate into them their applications, in an easy and reliable way, advanced security and traffic control technologies.

Vigilate design, develops and manufactures highly technological device, based on the winning partnership between high performance hardware and embedded software, developed in order to obtain truly innovative and performing products-functions.

The customer is the center of Vigilate's business model, as they testify the scrupulous care of the relationship, the high percentage of fidelity and, above all, the speed in meeting the demands by adapting to the customer's problems. All this, never forget the quality of the proposed solutions and customer support in choosing the most appropriate technologies.

Vigilate provides to its customers a complete range of products, software applications, services and support: the company's technological solutions are designed to simplify the work of integrating systems of customer companies. High technology combined in ease way of use, innovative products and services to deal with the growing complexity of the systems with simplicity. This is our belief, our vision, the work which we do every day we develop to affirm our company and its products in the panorama of technological security and traffic solutions.

A COMPLETE LINE OF PRODUCTS

The most innovative and winning technologies are to design effective and competitive products and systems. Our devices are developed with concepts of distributed intelligence approach; each providing a specific function, operated in a complete and reliable way. This allow to create a new technological architecture distributed and scalable, easy to integrate into logic remote control, or web technology, coming to propose, accomplishments in the Cloud Computing environment.

Product range, effectiveness and reliability of performance, communication and management models of the field, enable you to create a new solution for unanswered problems.

Distributed intelligence approach, complete web remote control, Cloud Computing architectures, change the paradigms of the Vigilate's technological proposal, overturn the limits and prospects of the traditional market solutions, generating immediate opportunities and simple, cheap and effective solutions.

- Intelligent video surveillance products
- Biometric Security Products
- Plate reading products
- Control and traffic analysis products
- Cloud and Private Platforms for Security Management
- Cloud and Private Platforms for Traffic Management