



**IN-VEHICLE SPEED ENFORCEMENT**



**SECTION SPEED CONTROL**



**INSTANT SPEED CAMERAS**



**ANPR & AI TRAFFIC APPLICATIONS**



**RED LIGHT ENFORCEMENT**



**ADVANCED TRAFFIC MANAGEMENT**



**AUTOMATIC VIOLATION PROCESSING**



# COMPANY PROFILE >>



EngiNe is a dynamic and highly technological society leader in violation enforcement, **ANPR**, traffic control, and solutions for Smart Cities. Founded in 2003 by some engineers from the college of engineering at Siena University, EngiNe has developed a combination of processes typical of advanced university research and the need for efficiency peculiar to a private firm.

In 2006, EngiNe merged into the operative network of **ENG Techno & Partners**. This merging, along with the new company organization, allowed EngiNe to increase its presence in the market and start testing further avant-garde solutions, which have now become a steady part of the offerings.

EngiNe's skills in traffic technology have enabled the development of systems in a market segment that is inherently characterized by a high level of research and development. Since its foundation in 2003, EngiNe has focused on bringing the latest technologies to the world of enforcement and traffic management. Thanks to its dedication to continuous innovation, EngiNe is always one step ahead with the latest technology advanced products available on the market.

EngiNe has developed cooperation with many international companies, including Autostrade per l'Italia, Sinelec, Leonardo, Siemens, 3M, Swarco, Estra, Iren, Safety21, Inspira, ECIL, Wipro, L&T, HCL, BEL, Airtel, Reliance, Panorama, Bredamenarinibus, Scania, Dacom, and many others.

EngiNe's portfolio consists of a 360-degree combination of traffic enforcement and control products. In parallel to all of this, the constant investments in highly technological initiatives have led EngiNe to develop excellent systems such as the automatic number plate recognition system EnPlate (also available for ADR), which is certified as an 'A-class' according to **UNI 10772** norm with the largest admitted speed, angles, and field of view in the market. They have also developed the EnVES EVO system for enforcing restricted traffic area accesses and the **EnVES EVO MVD** system, which detects overspeed, red light, stop line, wrong direction, and overtaking violations.

The powerful **CELERITAS MVD 2022** system for average speed control is based on state-of-the-art technology (which holds more than 40 international patents) that permits average speed detection using a technology that does not depend on the plate's syntax, font, aspect ratio, etc. Thanks to these peculiarities, **CELERITAS MVD** has also been adopted as an exclusive product by various service providers offering innovative services for police forces and public administration.

The latest **CELERITAS MSE** device for speed detection is a unique system capable of detecting vehicle speed from a moving car with high precision. Thanks to a combination of the latest radar technology and Artificial Intelligence, the **CELERITAS MSE** can detect speed and classify vehicles without any additional devices or connections with the car. These features make it the most flexible, accurate, and efficient device in its market segment.

All enforcement devices have been approved by local governments in various countries.



## 2ND GENERATION SECTION SPEED ENFORCEMENT SYSTEM



**CELERITAS** system automatically detects all vehicles that exceed average and/or instant speed allowed on a given section of road.

### Main Features:

- Automatic detection based on patented technology recognized all over the world (platematching® technology) which allows detection of violations by vehicles from all countries, with all types of plates, and even in poor maintenance conditions. CELERITAS does not use ANPR like the 1st generation section speed enforcement systems and for this reason it overcomes all the restrictions and limitations present in the other old fashioned systems.
- Very few installation restrictions that require very few installation constraints, which leads to highly simplified installations
- Non-invasive technology
- The best accuracy in violation detection (more than 99%)
- Distributed architecture
- Optional integration with vehicle classifier sensor
- Web-based interface
- Approved by Transportation Ministry in the country of origin (Italy)



The screenshot displays the CELERITAS web interface for validating a transit violation. The main heading is "Validation of not verified transit - 08/03/2014 - 09:17:21". It shows two side-by-side images of a blue car at "First station" and "Second station". A speedometer graphic indicates a speed of 811. The vehicle details are: Plate: 7-34039, Country: UAE, and Vehicle class: Car. Below the images are two diagrams illustrating the "Peripheral Station 1" and "Station 2" setup. The distance between the stations is labeled as  $L = 8232 \text{ m}$ . The maximum section speed error is noted as  $0,38\%$ .

Platematching® technology is adopted not only in CELERITAS systems but also by other manufacturers in various parts of the world.



## EnVES EVO MVD- ENABLING ROAD SAFETY



EnVES EVO MVD is a multi-violation detection system designed for enforcement authorities to automatically detect over-speeding, redlight, stop line, wrong direction, overtaking and various other traffic violations. The solution uses radar technology to identify vehicles in violation and high-definition camera systems for detailed documentation of infringements. This latest-generation radar technology allows a high degree of accuracy and precision in determining the location of the infringing vehicle, obtaining the exact trajectory and excluding any possibility of error.

Seamless integration with Artificial Intelligence algorithms for vehicle classification and privacy object obfuscation make it one of the most advanced systems available in the market

EnVES EVO MVD 1605 is thoroughly tested in accordance with OIML R91 & D11 regulations in international labs and certified by various state agencies.



### Main Features:

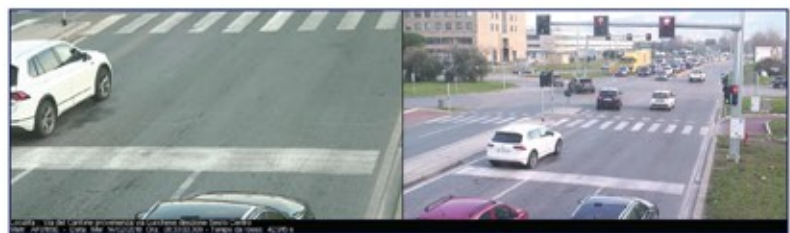
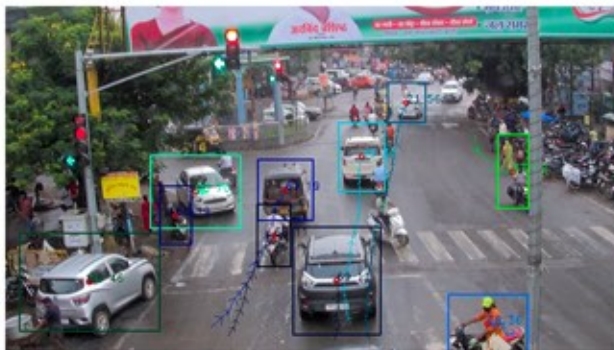
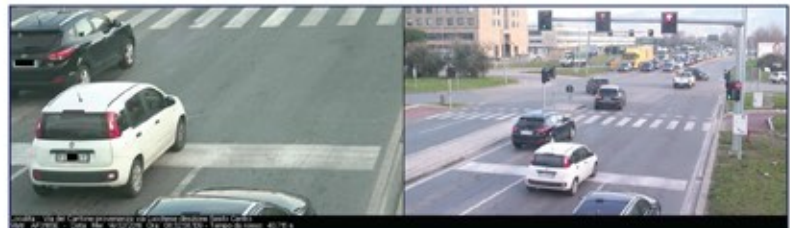
- 20 - 320 km/h (OIML R91 compliant)
- High resolution digital images (up to 20MP) with optional Full HD color context camera
- Day and night operation with low power consumption
- Two-way operation, approaching and/or departing
- Seamless integration with back-end infraction systems
- Detailed documentation of the infringements thanks to the very high-resolution images
- Integrated artificial intelligence module for advanced image processing functions



## RED LIGHT VIOLATION



ENVES EVO MVD- RED is an advanced multiple violation detecting system for traffic infractions at intersections and documenting them with multiple images before and after the infraction. The system offers sophisticated sensors with state-of-the-art features for monitoring speed and red-light/stop line enforcement in urban environments. ENVES EVO MVD - RED from Engine Italy automatically detects red light infractions including stop line violation, over-speeding, and other violations making traffic safe and accident-free.



### Main Features:

- Monitors Red Light, Stop Line, Speed, No Helmet, and other violations
- Very flexible & modular system architecture to adapt to various challenges at junctions.
- Options of only-video or 3D UHD/4D HD Radar integrated with video technology.
- Approved / Certified in several countries for Red Light & Speed Violations
- High detection rate, classification & ANPR accuracy
- Completely non-invasive technology with a inhouse back-end violation management system
- Optional RED- SPEED monitoring with other violations.
- State-of-the-art modular structure can be installed in single cabinet or as individual components.



## IN-VEHICLE SPEED ENFORCEMENT

### Enabling Road Safety Through Automatic Speed Enforcement



CELERITAS MSE 2021 Automotive Speed Enforcement Solution are vehicle-mounted systems that automatically detect over-speeding vehicles from a moving/stopped police patrol vehicle. These systems can be mounted on the windscreen or installed at the back of the vehicle. Using ENG solutions enforcement agencies have the opportunity, freedom, and flexibility to enforce speed limits in all types of environments and scenarios without the need of modifying Police Patrol Vehicles.

Thanks to an intelligent mix of sophisticated sensors and Artificial Intelligence the MSE 2021 system can detect target vehicle & their speed from a speeding police patrol vehicle with the system mounted on it.

Advanced AI engine & image processing provides OCR, vehicle classification enabling different speed thresholds for different classes of vehicles, and automatically detect sensible objects like pedestrian or windshield and automatically obfuscate corresponding image areas.

The device auto-detects its configuration and position and automatically applies best parameters for violation detection; the Celeritas MSE 2021 does not require specific mountings and fixtures for in-vehicle setup and can be moved from one car to another in a matter of few minutes.

All our systems are thoroughly tested in accordance with international metrology regulations in international labs and certified by various state agencies. Our Automotive speed systems can be used in Mobile or as Tripod mounted systems to capture over speeding vehicles across the highway/primary speeding road networks





## CELERITAS MSE 2021



### Main Features:

- Compact, Lightweight with easy mountings for in-vehicle or tripod.
- Easy to Set-up, dismantle and configure.
- Covers up to 4 lanes with bidirectional -320+320 km/h measuring range
- Highly accurate speed detection on moving mode or stationary mode
- Detect simultaneously speed of departing (same direction) and approaching (opposite direction) vehicles
- Automatically detect vehicle class with AI powerful engine
- Automatically detect sensitive image areas and obfuscate
- Automatic detection of location and apply correspondent image description and speed limits
- Mountable in front or rear of the vehicle
- Wi-Fi, Modem LTE, and GPS to ensure connectivity and geo-referencing



## AUTOMATIC VIOLATION & CENTRALIZATION APPLICATION

Our Citation solution is a unified platform to streamline the complex task of processing incidents & tickets and ensuring their dispatch, for all enforcement systems. The system is a dynamic high performance scalable back-end infrastructure which can be integrated with multiple devices even from different suppliers to enable a unified back-office application for city authorities.

The eTMCS-E004 Centralized server allows operators to verify every infraction with complete evidence. The operator can verify the infraction with video/image and can confirm the vehicle number read by system and can edit and correct if needed. After successful verification the system can retrieve the vehicle details (owner, revision history, pollution certification, and so on) from an integrated database server and proceed the violation for Fine generation.



### Main Features:

- Cross Platform Compatibility
- Easily Manageable: Web based system
- Highly Deployable
- Multiple clients
- Continuous Updates
- Integration with heterogeneous devices



UK07DK2018

Class : Car Lane : 1  
 License : UK07DK2018  
 Speed limit : 60km/h  
 Speed : 76km/h  
 Time : 17:44:53  
 Date : 18-03-2020



OVER SPEEDING



## ANPR & AI TRAFFIC APPLICATION



World's most reliable, accurate and cost effective ANPR solution; that supports plates from many countries, including coloured plates and plates in with varied fonts and formats (e.g. in India), as well as hazardous goods signs.

In combination with Vista EnVES08 video acquisition system, this ANPR system is certified by NMi Certin (Netherlands) and PulenergyMetrovis (Italy) in A-Class according to the UNI 10772:2016 norm for recognizing area, angles, and speeds of vehicles in transit, and is superior to any other system on the market

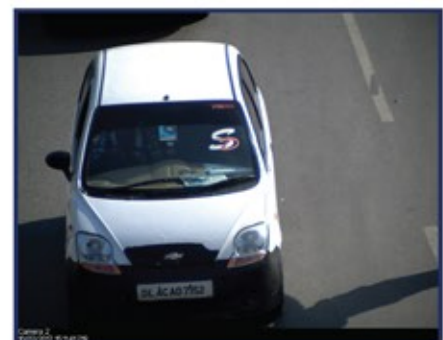
A fully digital web based system with distributed architecture that provides high accuracy and detection rates at speeds more than 300 km/h. ANPR suite can be integrated with various other third party systems such as Milestone, Avigilon, etc. Unlock the potential of our solutions with our inbuilt traffic application, offering real-time insights on traffic volume, vehicle classification, and enforcement violations such as no helmet, triple ride, and seat belt infractions. Streamline traffic management with unparalleled precision and efficiency.

### AI Based Analytics:

- Vehicle Count & Classification
- Traffic Statistics Speed & ETA
- No Helmet, Triple Ride Enforcement
- Color & Make detection



### TRAFFIC MONITORING

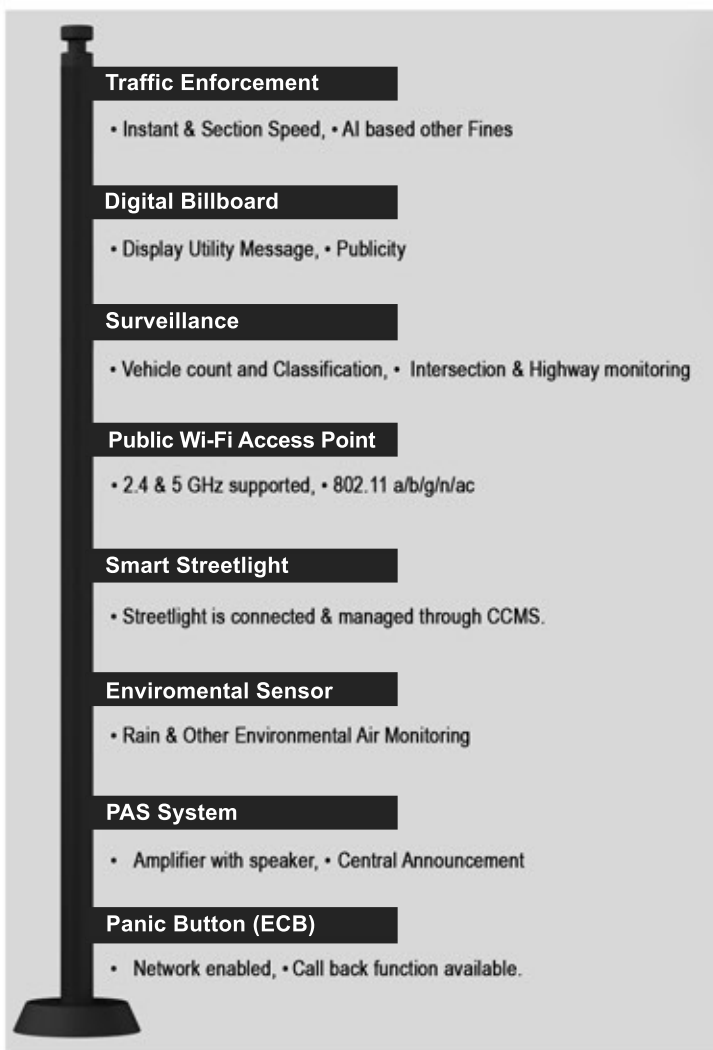




## EnSMART POLE

Smart poles are rapidly emerging as core components of smart city and smart road infrastructure worldwide. These poles introduce a new feature to the urban landscape by leveraging sensor and communication technologies to create an intelligent environment.

These smart poles are connected to centralized command and control centers, which assist in monitoring other smart solutions installed in cities. They are equipped with inbuilt traffic detection, enforcement, and surveillance systems that are essential for the city's security department. They aid authorities in addressing multiple urban issues. Additionally, any faults in the poles can be identified remotely, eliminating the need for physical examination of each pole. Smart poles can also be easily customized to incorporate various types of environmental sensors, EV charging, digital displays, public announcement systems, and more.







## INTELLIGENT TRAFFIC MANAGEMENT SYSTEM



### ROAD TRAFFIC ANALYTICS PAST PRESENT AND FUTURE

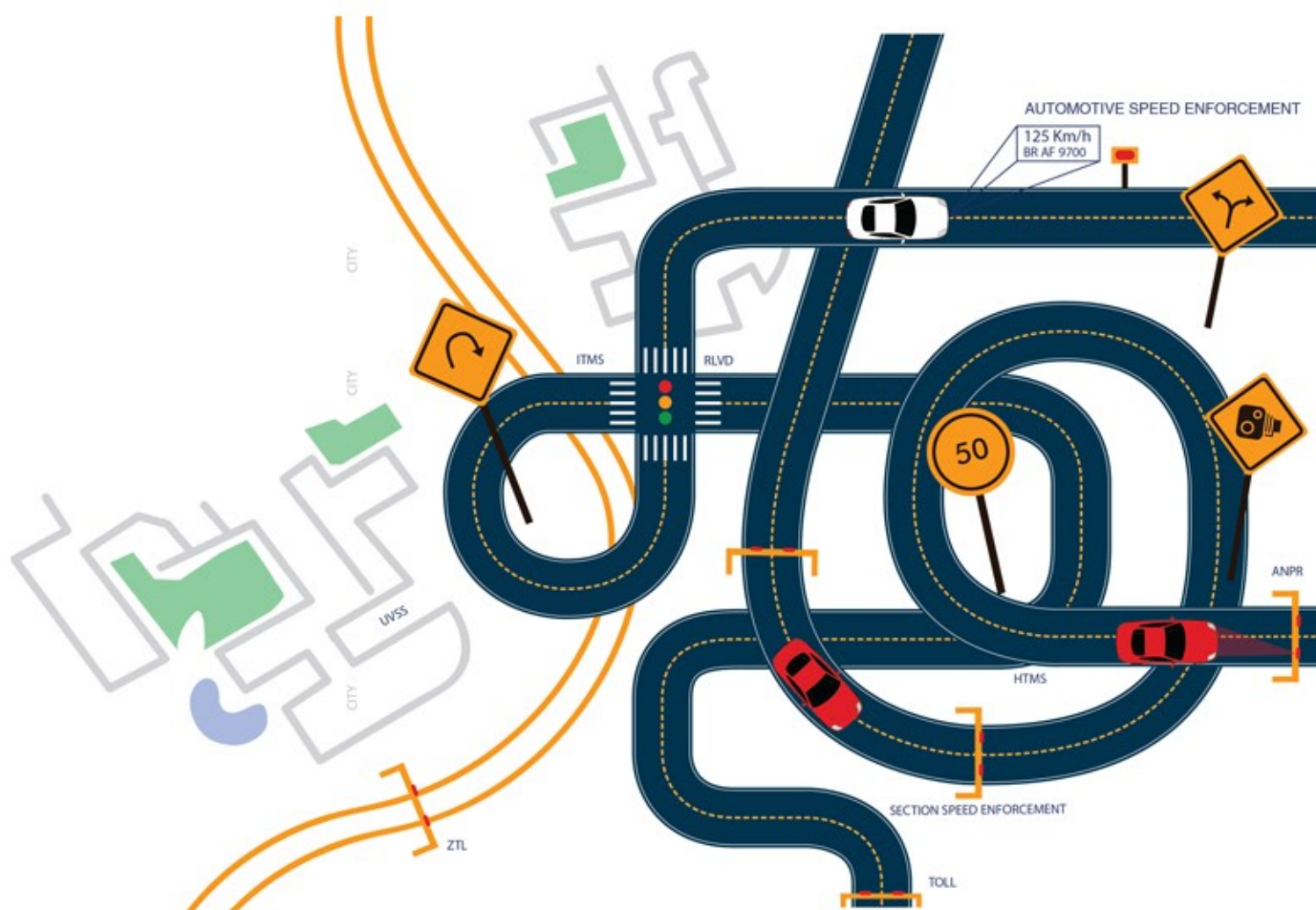
EngiNe, along with its world-renowned partners, has developed a range of intelligent traffic management, highway safety, and mobility solutions utilizing various sensor technologies. Non-invasive sensors such as laser scanners, radars, and cameras are used independently or in combination to detect and collect data on vehicle count, height, length, which aids in vehicle classification, queue lengths, average traffic speed, and traffic flow. This data is processed, analyzed, and presented by sophisticated software in the form of reports, graphs, charts, and trends, which assist in designing and implementing an efficient traffic flow system.



**“One of the most important recent achievements was the implementation, completed in the year 2023, of the traffic control network at the city of Rome, which, among the most extensive in Europe, employs about 800 Radar sensors in 4D/HD technology.”**

For more details about our solution please contact [sales@engine.it](mailto:sales@engine.it)





**ENiNe**  
One step ahead

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