

# Traffiko – Traffic Junction Safety

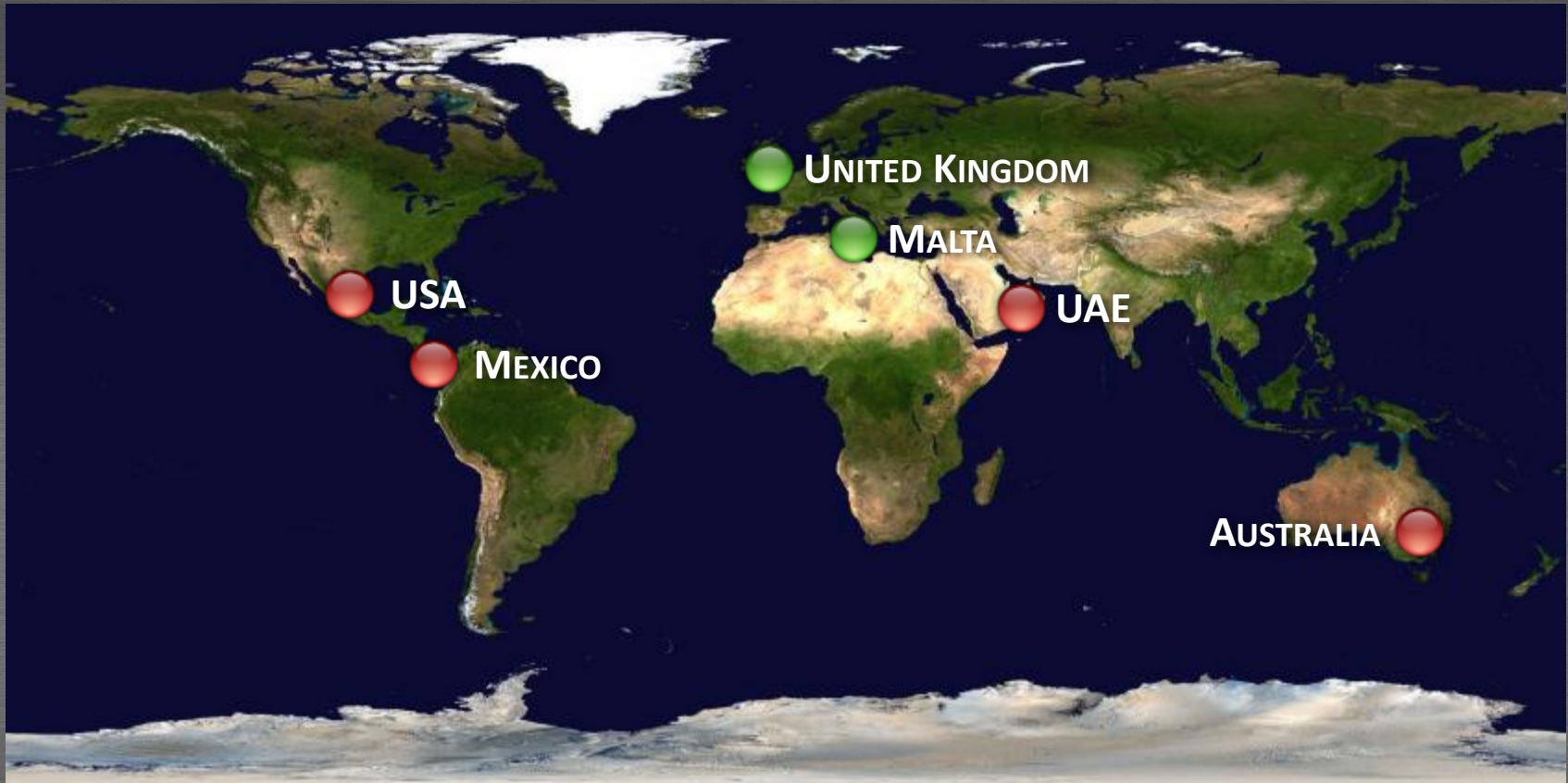


2012 // Angelo Dalli  
**ISD Conference Malta**

# Locations & Partners

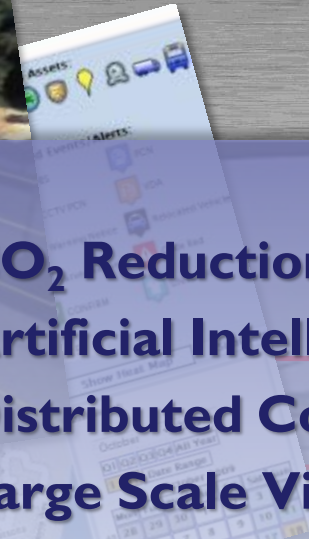


photosinbox.com





# Expertise



- **Image Processing Algorithms**
- **Low Power Processing**
- **GPU & CUDA Computation**
- **Massively Parallel Systems**
- **Embedded Architectures**
- **Position Based Algorithms**
- **Traffic Algorithm Research**
- **GNSS Tracking (GPS, Galileo & Glonass)**
- **CO<sub>2</sub> Reduction Measures**
- **Artificial Intelligence**
- **Distributed Computing**
- **Large Scale Visualisation**
- **And more!**
- **Custom R&D capabilities aligned with product roadmap**





**Access Control**



**Payment Kiosk**



**Parking Guidance**



**Enforcement**



**Traffic Analysis**



**Congestion Charge**



**Traffic Junctions**



**Crowd Analysis**



**Journey Analysis**



**Parking Mgmt**



**Adaptability**



**Business Intelligence**



**Maritime**



**Aviation**



**Tracking**





**Surface**



**Maritime**



**Aviation**



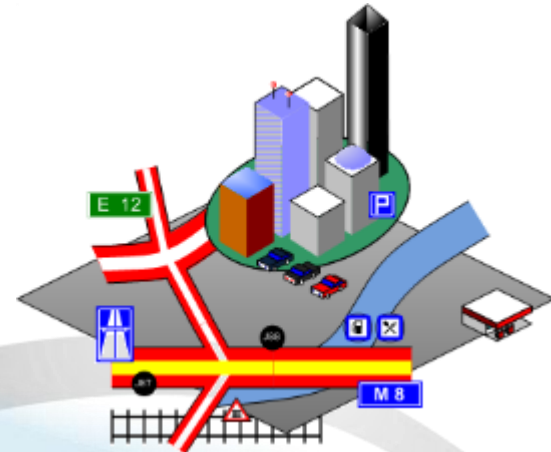
**Space**



**Single Site**



**Multiple Sites**



**City / Nation Wide**

Easy upgrade path for solutions for all levels of complexity and scale

# Traffiko IDITES Technology



- Intelligent Digital Traffic Enforcement System (IDITES)
- Next generation traffic analysis and enforcement technology
- Drastically reducing the need for human monitoring with sophisticated Image Processing and Artificial Intelligence



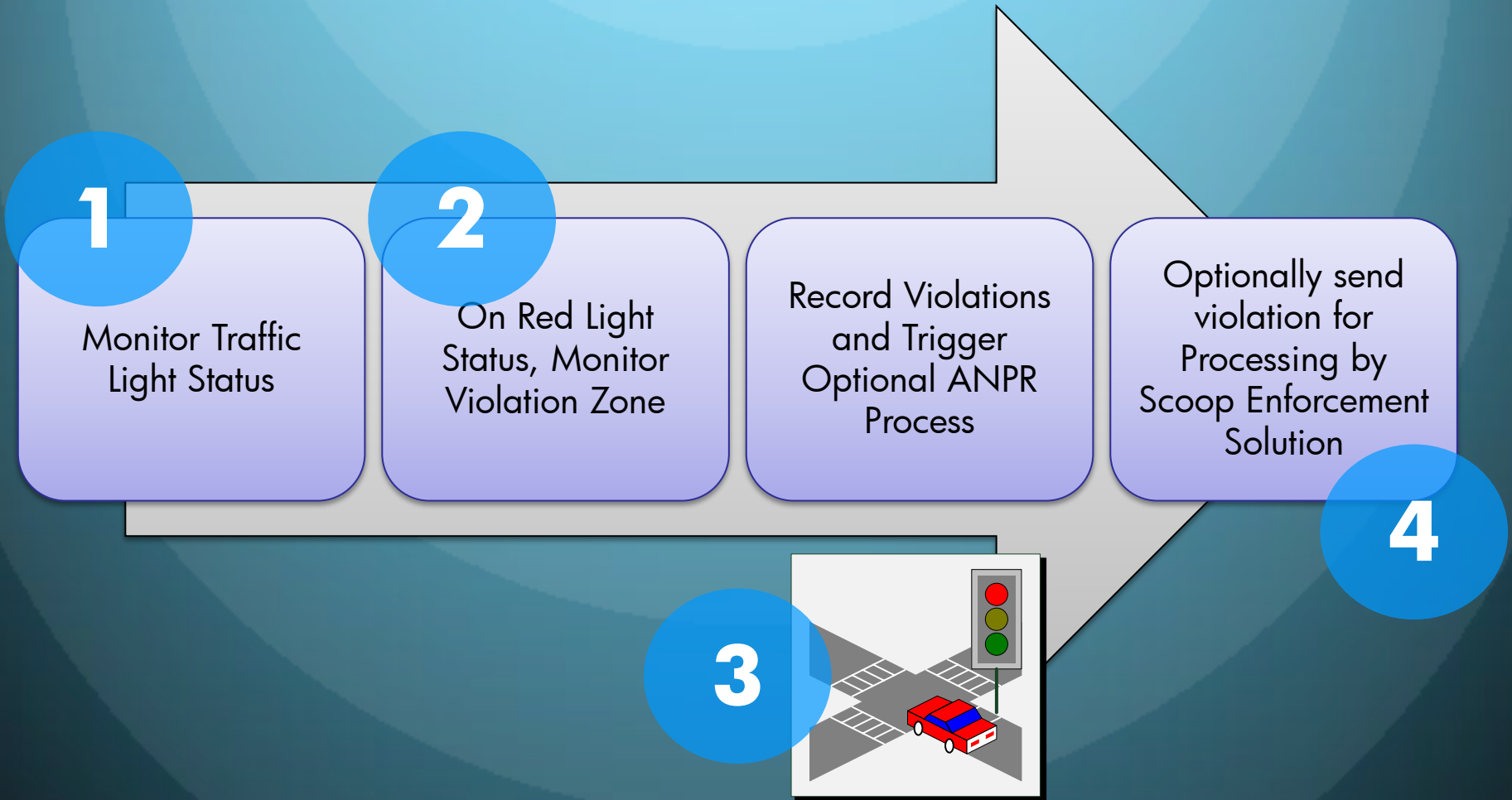
# Traffic Junction Safety



- **Traffic light violation** detection & **monitoring**
- **Pedestrian detection** at traffic lights
- **Flow counting & behavioural analysis**
- **Vehicle classification & routing**
- **Crowd tracking & zebra crossing** monitoring



# Traffic Light System Process



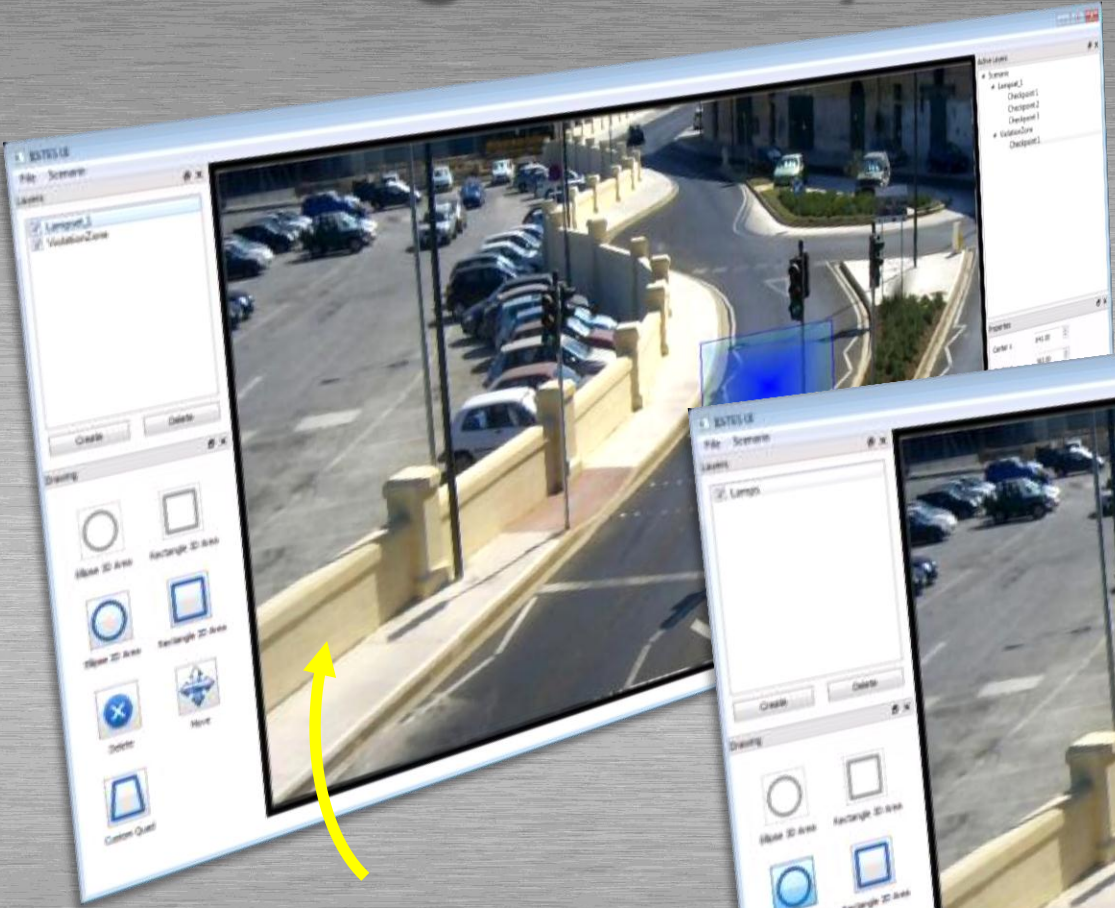
# Traffic Light System Setup Process



- The traffic light system can be easily setup via our system of layers and the intuitive what-you-see-is-what-you-get scenario calibration frame capture.



# Traffic Light Analysis Layers

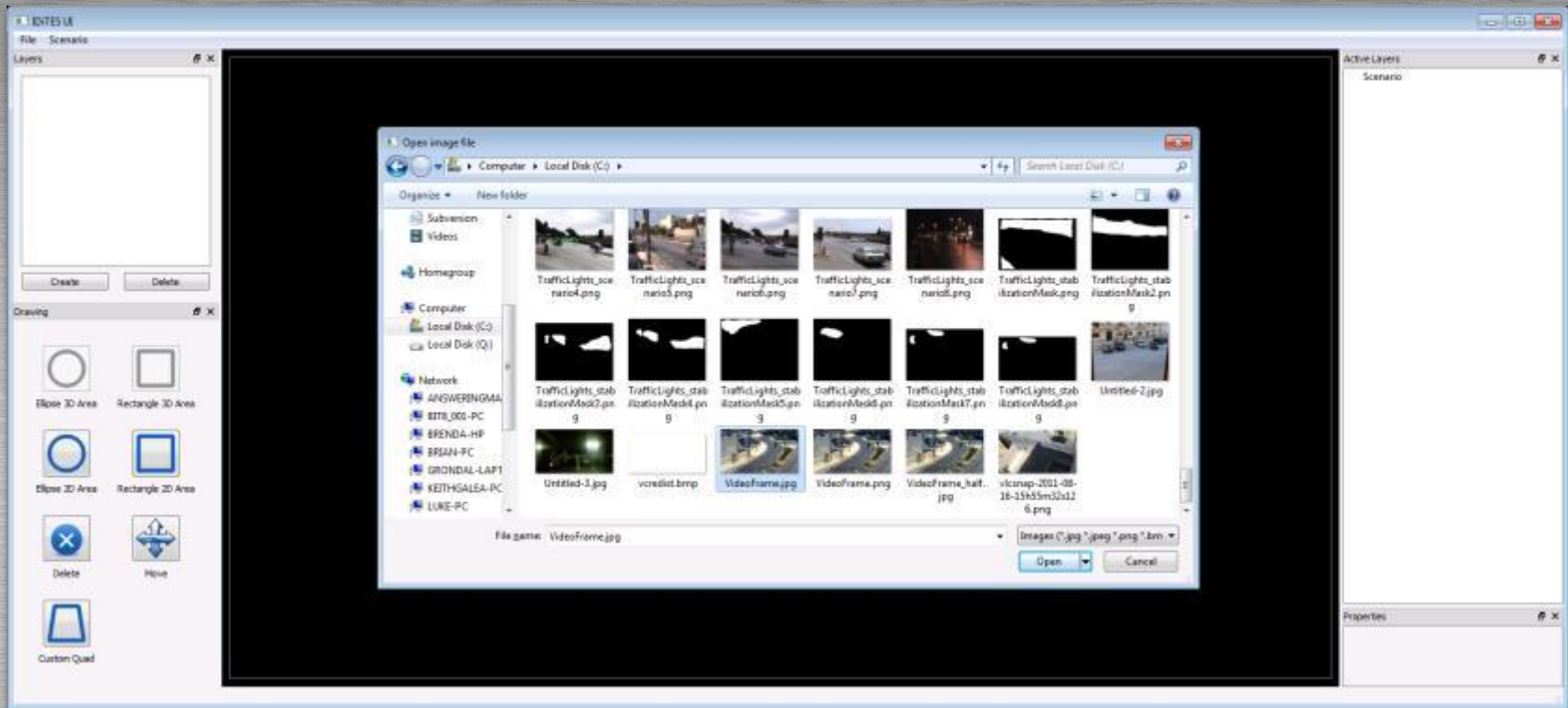


*Violations zone layer – allows for fine tuning of the violations zone after the traffic light stop line*

*Traffic light lamp layer – detects the true current status of the lights*



# Scenario Setup



- Select a typical camera frame for the traffic junction being setup. The frame can be acquired via the scenario setup process.



# Scenario Setup



- Once the frame is loaded, the lamp layer and violations layer can be setup. The scenario setup process ensures that the frame is aligned with the actual video captured by the cameras.

# Traffic Light Lamp Setup



- The location of the lamps in the scene are indicated using the elliptical tool.
- More than one lamp can be set in the same scene.
- Multiple lamps are handled automatically.

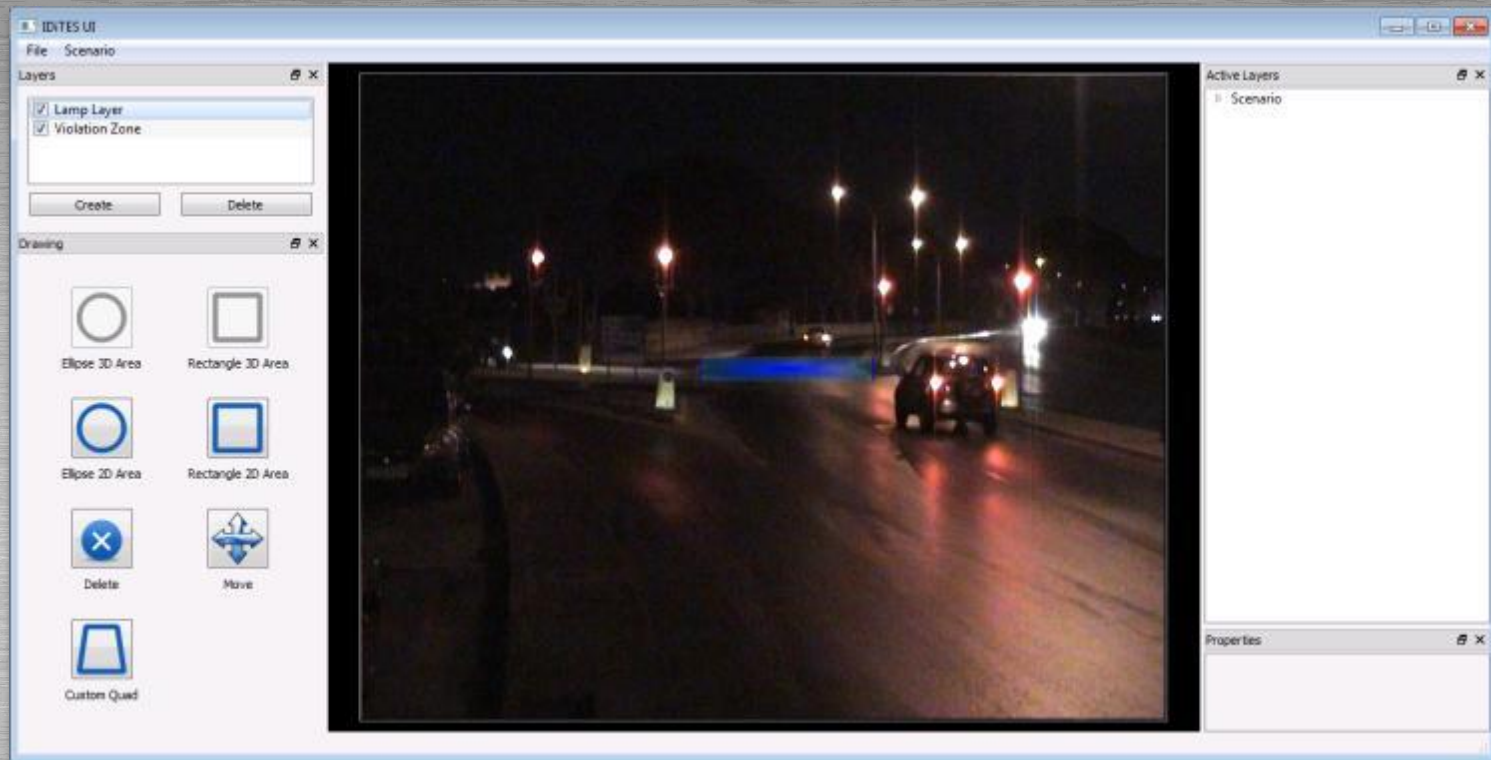


# Traffic Light Violation Setup



- Violations zone can be setup using the rectangle tool and rotated according to the specific scenario. The perspective tool can be used to correct the geometry of the zone.

# Traffic Light Violation Setup

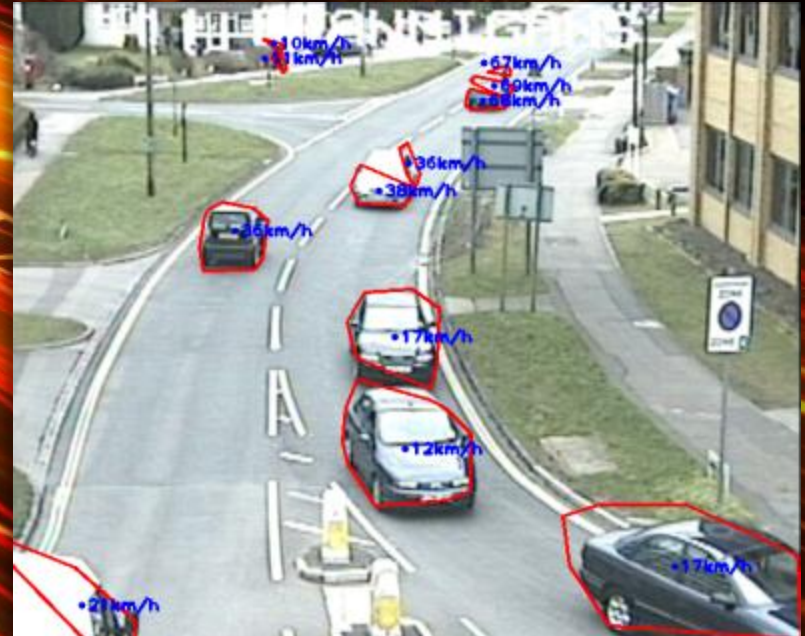


- The violations zone needs to be slightly behind the traffic light stop line. The system will trigger an event if a vehicle is detected unambiguously crossing the violations zone when the lamp is red. Traffic jams and junction clearance parameters can also be configured.



# Flow Analysis and Counting

- Uses IDITES technology to analyse vehicle movements and overall traffic flow
- Automatic detection of abnormal driver behaviour
- Gathering of traffic counting and vehicle classification statistics
- Detection of traffic jams with automatic alerts capability
- Automatic detection and alerting of traffic accidents
- Enhancement of Journey Time Analysis and Average Speed functions





**Intelligent Transport Solutions.**

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