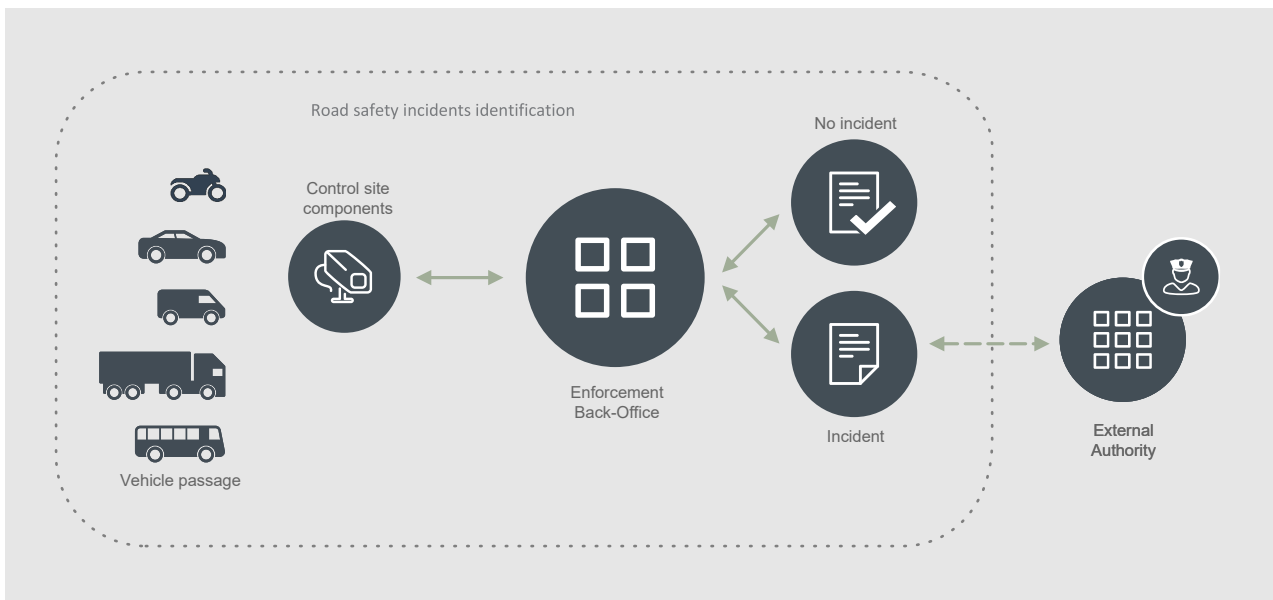# Platform
Law Enforcement (SAFE)

Road safety is a global concern. Countless accidents occurring daily worldwide was the motivation behind the development of a comprehensive solution to identify and prevent road safety incidents. The safety platform is the result of the successful operation of related technologies across various implementations over an extensive period of time.

The platform for road safety incidents, identification and prevention is based on an innovative approach that combines various proven enforcement technologies. These technologies include intelligent cameras equipped with artificial intelligence (AI) and automatic number plate recognition (ANPR) capabilities, speed measuring and dynamic weighing mechanisms that seamlessly integrate with advanced vehicle passage analysis algorithms to identify and mitigate a wide and diverse range of road safety incidents.

SCAN ME

More information:
qrfy.com/p/2023_safe

From a processing perspective, every incident starts by capturing the vehicle passage through a network of strategically positioned and calibrated components installed at the control site. Next, all raw vehicle passage data are automatically matched (data harmonisation is one of the most critical parts of the process) resulting in the creation of a complex enforcement event.

Each enforcement event is evaluated (either centrally or locally), and depending on the outcome, the investigation into the road safety incident proceeds and may possibly lead to the eventual confirmation of a violation.

For the purpose of official (usually external) authorities, it serves as indisputable evidence; each enforcement event includes data that undeniably establishes its authenticity and integrity among other crucial details.

Unique data removes incident ambiguity

- Where the event has been captured (location – GPS coordinates)

- When the event has been captured (precise UTC timestamp synchronised with back office)

- Which component has generated the data (exact identification)

Additional data attached to the evidence documentation contain the context picture and visible LPN.

Road safety incidents

- Speed measurement (on the spot and/or sectional)

- Unauthorised driving in dedicated (e.g. BUS) lane (specific vehicle category in particular lane)

- Unauthorised driving in the fast lane (e.g. if the vehicle is occupied by only one person (prerequisite it to count the number of people in the vehicle))

- Red light violation

- Solid line crossing

- Wrong way (direction) detection

- U Turn and forbidden turn crossing

- Stop sign crossing without stopping

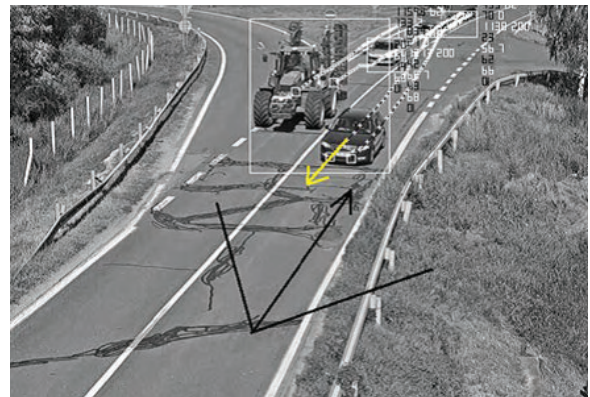- Forbidden heavy weight vehicles sign crossing

- Overweight

- Detection of driving too close

- Detection of unfastened seat belts

- Detection of mobile phone usage by the driver

- Detection of railroad crossing

Examples of selected incidents

Solid line Crossing:
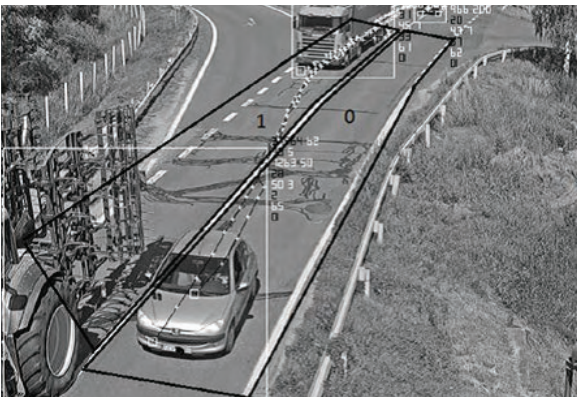
Wrong way (direction) detection:

Red light violation:

Stop sign crossing:

The prerequisite to incident detection is hardware and software installation at the control site and subsequent site configuration including motion tracking and analysis. Analysis is focused on defining polygons, or regions of interest (ROIs), within the focal area where potential incidents can be detected, this includes a static scene (background and other geographically fixed objects like traffic signs, semaphores etc.) and moving objects (typically vehicles). The motion analysis software recognises several types of ROIs: tracking (intensive video processing required for tracking moving objects), presence monitoring (only the object is evaluated over time) and other (i.e. brightness is evaluated within this specified area).

Motion tracking analysis examples: