

# T-XROAD

Advanced technology for Traffic Applications

**Kria**  
KNOWLEDGE RESEARCH IN IMAGING APPLICATIONS

**PATENTED** Intellectual property: Kria S.r.l.

## Traffic light violation enforcement system

T-XROAD is the newest and most innovative digital system for traffic light violation detection. Based on hi-res video digital cameras, ALPR and 3D vehicle tracking.

Fast and easy installation does not require inductive loops, lasers, radars, as the vehicle trajectory is detected directly from images taken by high definition cameras, repeating the real time recognition process at every new video frame

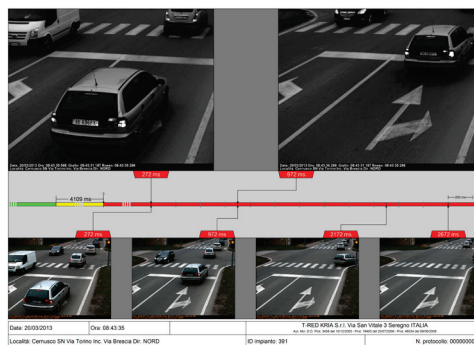
T-XROAD is certified by many Ministry of Transport.

T-XROAD ALPR passed the Italian **UNI 10772** test with a **100%** recognition rate and includes international license plate libraries.

T-XROAD Acquisition Unit has 2 HD cameras: a colour camera dedicated to tracking vehicles through the intersection and a monochrome camera dedicated to ALPR on 2 or 3 lanes.

During the yellow and red phases the T-XROAD Processing Unit reads the license plates and tracks the vehicle from the colour and monochrome video streams, selecting a subset of the most significant frames, without external trigger.

The Central Unit Event Server manages every remotely connected T-XROAD and stores unlimited numbers of violations. It is also connected to a national database for driver identification and traffic fine management.



## System architecture - 3 interconnected components

**Acquisition Unit** 2 cameras and 1 IR led matrix in IP 66 housings. To be installed 18 m before the stop line

Connection: G-Ethernet for video and camera control

**Processing Unit** T-XROAD industrial PC, Windows OS and T-XROAD program for violation detection to automatically process video streams

Connection: TCP/IP network

**Central Unit** Event Server with safe encrypted violation database and Clients for operator access, validation end export procedures

**Intersection: Reduced visual impact**

Acquisition Unit: 2 IP66 housed cameras 40 cm x 13 cm

Vertical pole mount (diameter 102 mm)

T-XROAD Server, ultra-slim industrial PC embedded in the traffic light controller cabinet or in dedicated shelter

**Intersection: No Civil Works**

Automatic vehicle detection does not require invasive inductive loops, radars or laser

Wireless data transmission among system components does not require excavations

System installation time less than 3 hours and without traffic suspension

**Best Quality/Price ratio**

First traffic light violation including ALPR system

Neither operative nor maintenance costs. Neither film developing, nor operator license plate recognition

Violation documents electronically transmitted to the Central Unit - No need for on site data collection

**T-XROAD Server (intersection)**

UNI 10772 certified - 100% recognition rate - Top "A" Class - ALPR worldwide layouts and fonts

Video rate automatic license plate reading

Video rate automatic vehicle tracking through the intersection

Sub-sampled image set with violation evidence selected from the video streams

Transit detection up to 250 Km/h

Night-time and all-weather transit detection

Simultaneous transit detection for multi-lane or queued traffic

Software and algorithms fully designed and produced by Kria

Professional experience in video enforcement systems since 1990

Parallel lane configurations available

**Event Server (Central Unit)**

Violation document stored in the database with place, time, license plate overwritten on every image

Data protected by encryption

Interface with third party backend software

Traffic statistics

Software customization

**Services**

Worldwide international partner network

Pre-sales assistance with design and installation

After-sales assistance and remote maintenance

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