

T-3D

Advanced Technology for Traffic Applications



Intellectual Property: Kria S.r.l.

Functions



T-3D represents the state of the art in traffic monitoring, incident detection and vehicle classification systems. This advanced technology, conceived by KRIA, automatically reconstructs the 3D shape of every moving object, also detecting vehicles partially overlapped on the 2D image.

T-3D/tracker

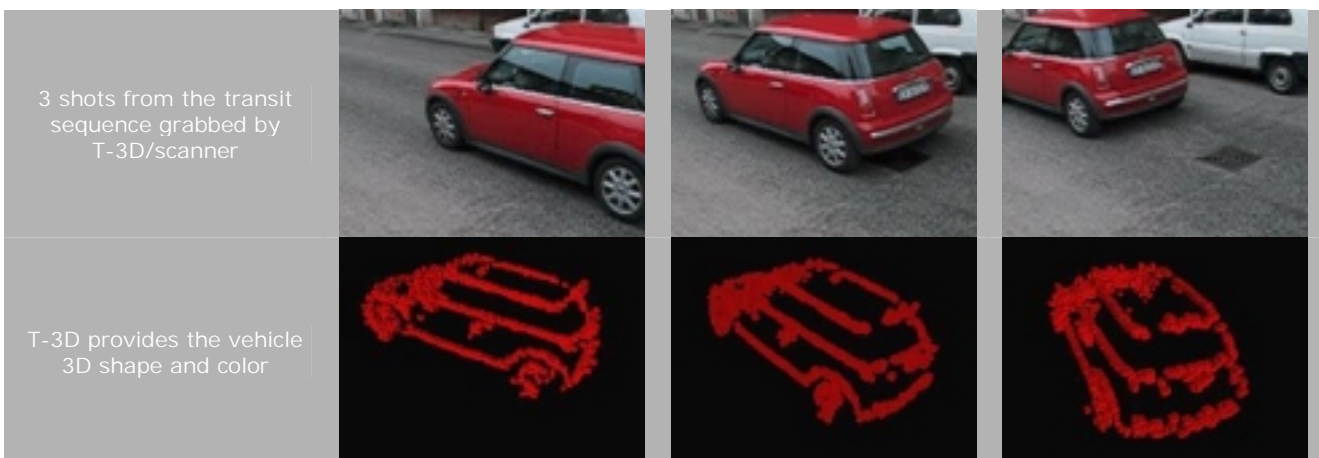
T-3D/tracker version is specialized in complex scenes where many vehicles move on different trajectories at the same time; in this case T-3D sets vehicles apart, even when partially overlapped on the image, providing very accurate counting, direction and speed information. T-3D/tracker also detects abnormal behaviour like lane change and wrong way.



Trace colors define vehicle behaviours: **Normal** in green, **Warning** in orange and **Alarm** in red

T-3D/scanner

T-3D/scanner is set to frame a single lane and is able to reconstruct the three-dimensional profile of the vehicle during transit, providing accurate speed, direction, classification and shape measurements.



Kria S.r.l.

Via Maroncelli 36, 20038
Seregno (MI) Italy

Tel. +39.0362.328178
Fax. +39.0362.235088

Mail sales@kria.biz

Standard Applications			
T-3D	tracker	scanner	Real Time Functions/Alarms
Highways/freeways	✓	✓	Counting, Direction (and wrong way), Speed, Inter-vehicle distance, Stop, Traffic jam, 3D Classification
Crossroads	✓		Counting, (30) Trajectories (and wrong way), Lane change, Origin-Destination, Traffic jam, Speed
Traffic lights		✓	Trajectories, Traffic jam, Speed, Inter-vehicle distance
Limited Traffic Zones		✓	Counting, Wrong way, 3D Classification
Tunnels	✓	✓	Counting, Direction (and wrong way), Speed, Stop, Traffic jam, Inter-vehicle distance, 3D Classification
Car parks		✓	Input-Output 3D shape comparison (anti-thief)
Container terminals		✓	Truck and container (20-40 feet) Counting and 3D Classes

Technical data	
Hardware platform	Standard PC Pentium 2GHz(+)
Acquisition and processing T-3D/tracker	4 MUX PAL/CCIR [or NTSC/EIA] video IN up to 16 multiplexed images/sec for Motion analysis
Acquisition and processing T-3D/scanner	2 PAL/CCIR [or NTSC/EIA] video IN for Stereo Motion analysis
Cabinet	Tower or rack 19" case
Camera	2 Special high sensitivity cameras - custom DSP configuration
Housing	IP 66
I/O	13 contacts for 3rd party event synchronization
Lighting	Application dependent
Software	Combined Stereo and Structure from Motion designed by KRIA
Performance	Dev error: Speed +/- 0,1%, dimension +/- 5%

Installation	
Environment	Indoor or outdoor - Day and night
Setup	2 Fixed Cameras 4-10 meter high
Field of view T-3D/tracker	about 1000 mt ² at ground (2-3 lanes 150 mt long)
Field of view T-3D/scanner	about 100 mt ² at ground (1 lane 30 mt long)

Real time output	
Vehicle classification	3-dimensional shape estimation
Vehicle tracking	Speed and direction estimation
Vehicle image	M-JPEG file
Electronic signature and security	Data and image records certified and protected by cryptography
Statistics (on Event Server)	Vehicle counting, Average speed, Traffic Density Classes, 3D Classification (8+1 3D Classes), Data grouped in time slots

System Integration	
Management Station	Event-Server standard SQL database and GUI
Vehicle identification	T-ID Licence Plate recognition

Kria S.r.l.	Via Maroncelli 36, 20038 Seregno (MI) Italy	Tel. +39.0362.328178 Fax. +39.0362.235088	Mail sales@kria.biz
-------------	---	--	---------------------