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spirit of research and innovation

WHO WE ARE

Software and engineering company, which develops the best of breed software solutions for video surveillance and behaviour analysis dedicated to the Smart Transportation Industry

Italian private company

Worldwide active through certified value added distributors

In-house R&D department (SprinxLab) with specific knowledge in Computer Vision, Artificial Intelligence and Deep Learning

Globally recognized as one of the most innovative company in developing video analytics for the traffic market (special prize at Intertraffic Innovation Award 2018 Amsterdam)

Software Development Partner of the major CCTV player

Active member of Consorzio Milano Ricerche

OUR HISTORY

2009

Sprinx Technologies is founded in Milan

2010

Sprinx starts developing an Automatic Incident Detection software compliant with Directive 2004/54/CE

2011

First big traffic project in the domestic market

[1.500 video analytics channels]

2012

Sprinx first important traffic reference in the international market

[600 video channels]

2014

Sprinx develops its first Traffic Application running on board Samsung cameras

OUR HISTORY

2015

Release of the brand new AID software platform SX-TRAFFIC 2.0

2016 Q2

Launch of the 3D Object Tracking technology

A new era of Sprinx begins

2016 Q4

Sprinx starts developing its distribution channel strategy

2017 Q2

Sprinx increases its international market penetration

2017 Q4

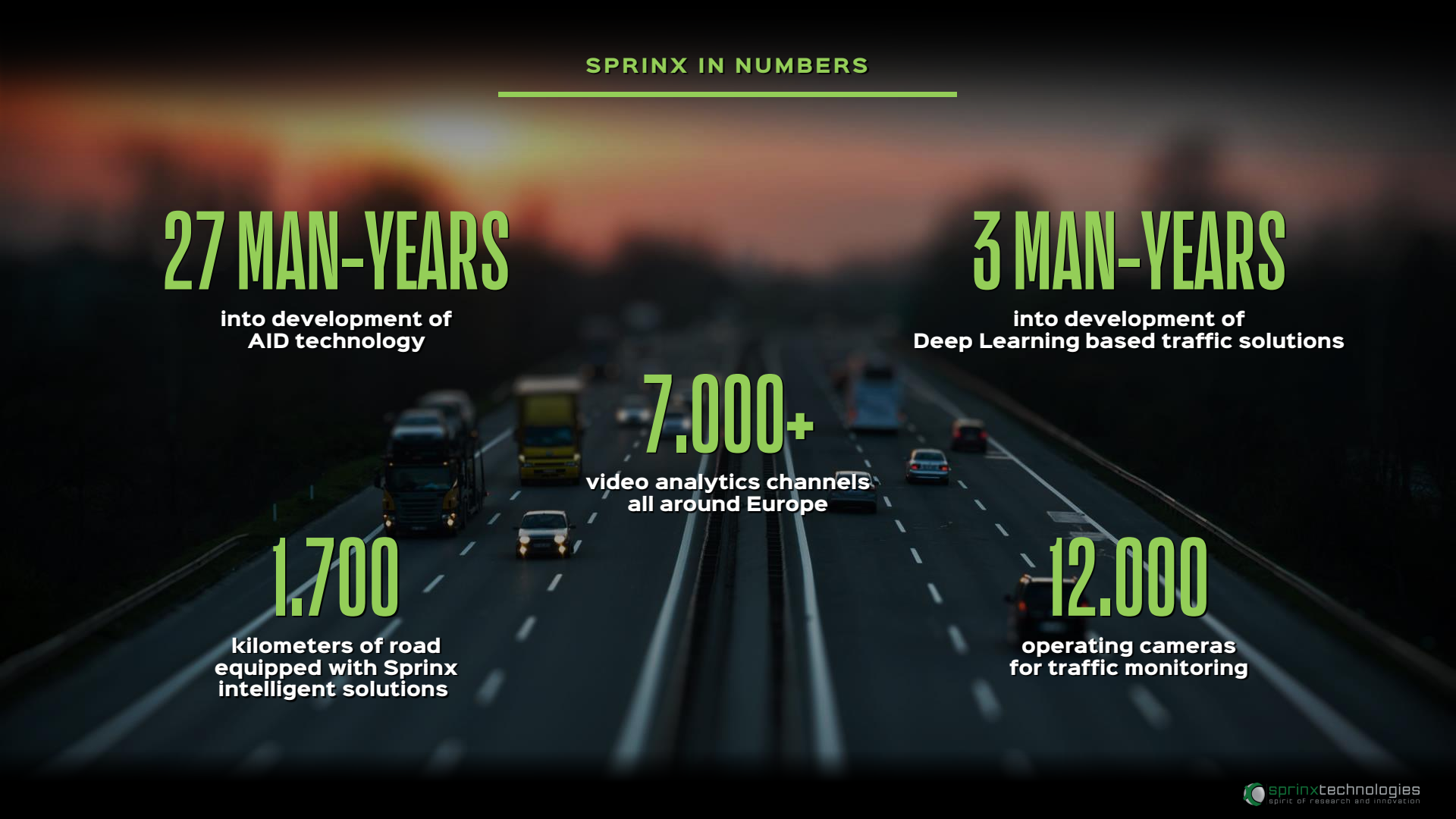
Sprinx signs a distribution agreement with Samsung/Hanwha Techwin Europe

2018 Q1

Sprinx awarded as Special Mention at Intertraffic Innovation Awards 2018

2018 Q4

World preview of the TRAFFIX AI, based on Deep Learning



SPRINX IN NUMBERS

27 MAN-YEARS

into development of
AID technology

3 MAN-YEARS

into development of
Deep Learning based traffic solutions

7.000+

video analytics channels
all around Europe

1.700

kilometers of road
equipped with Sprinx
intelligent solutions

12.000

operating cameras
for traffic monitoring

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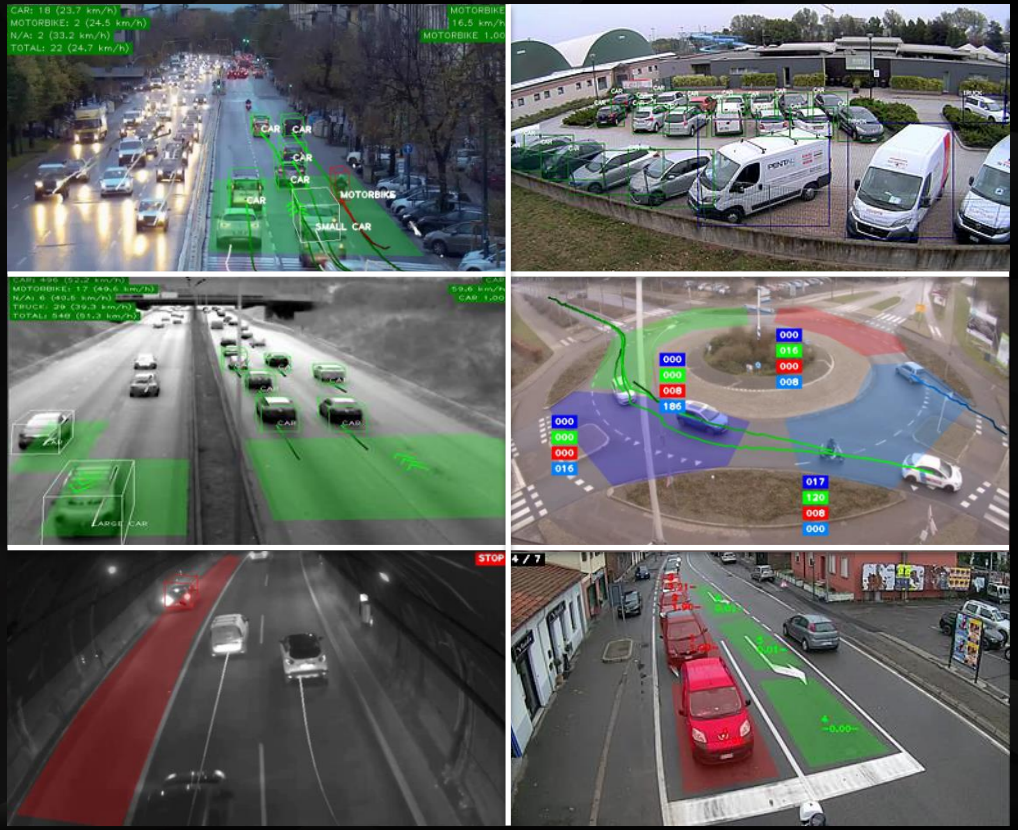
WHAT WE DO



SOFTWARE SOLUTIONS

Traffic Event Detection and Vehicle Tracking
Traffic Data Collection
Vehicle Classification
Parking Spot Occupancy
Traffic Light Management
Integration with 3rd party systems

USP & BEST IN CLASS

3D Object Tracking
Built-in Deep Learning module
Easy to install and deploy
Hardware independent
Pre- and Post-processing
Adaptive into existing systems

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OUR PLAYGROUNDS

SMART ROAD

Improvement in Safety standards (tunnels, highways, bridges)

Reduction in Costs of Management

Simplification of Security infrastructure management

Upgrade of existing infrastructures

Tolling Systems

SMART CITY

Reduction of Traffic Congestion (intersections, roundabouts, traffic light system)

Urban Mobility Plans

Upgrade of existing Security infrastructures

Management of Parking Areas

Restricted Traffic Zone (Congestion Charging)

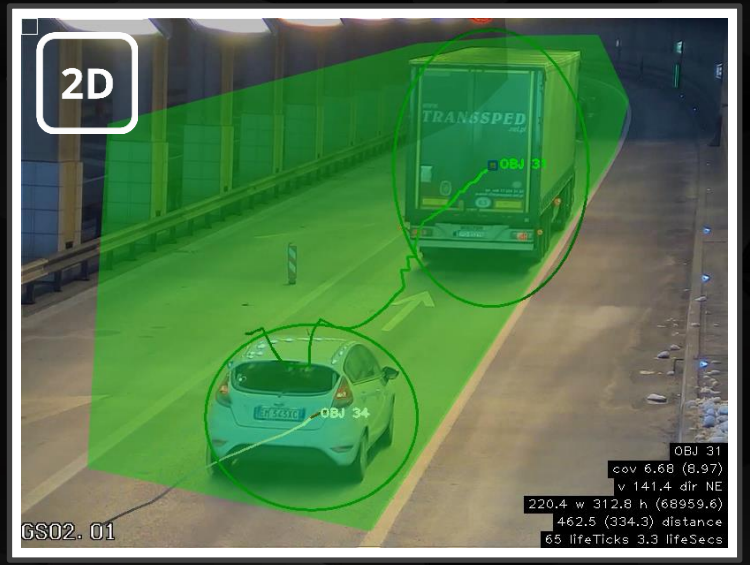
TRAFFIC MANAGEMENT

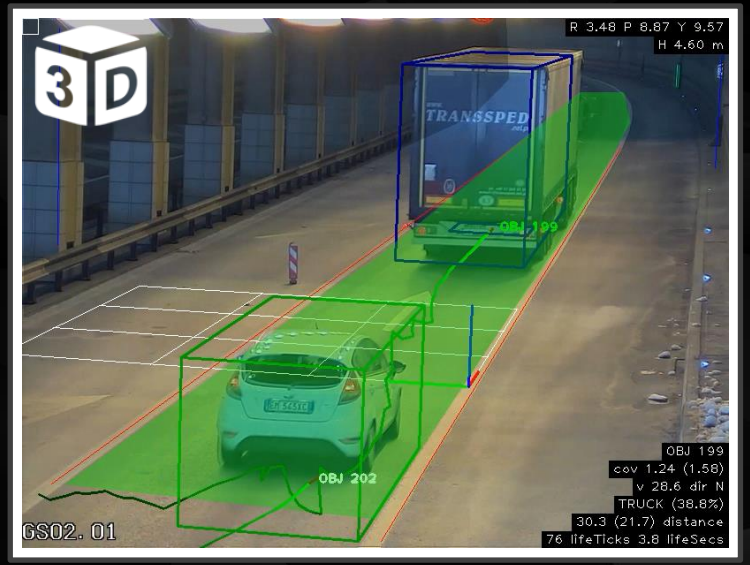
HOW WE DO IT

Video Analytics Algorithms

TECHNOLOGY ADVANTAGE

3D Object tracking





- Video analysis of pixel blobs on the image plane
- Configuration of the min and max dimension to compensate the perspective
- The detection zones must include all the pixels in image plane where the object is moving (i.e. walls)

- Video analysis of 3D object (dimension, speed and direction)
- Moving objects maintain the same properties (i.e. speed and dimension) everywhere in the image
- The detection zones have to include only the road surface where the objects are moving

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TECHNOLOGY ADVANTAGE

Deep Learning

Deep Learning is a subset of AI and machine learning that uses multi-layered artificial neural networks to deliver state-of-the-art accuracy in tasks such as object detection and classification.

Standard features of TRAFFIX software can be strengthened with an additional module of Artificial Intelligence.
By leveraging powerful Deep Neural Network, TRAFFIX AI analyses video streams in real time to quickly classify vehicles and identify traffic issues.

Based on NVIDIA GPU platforms And Movidius Intel platform

NVIDIA

intel Movidius™

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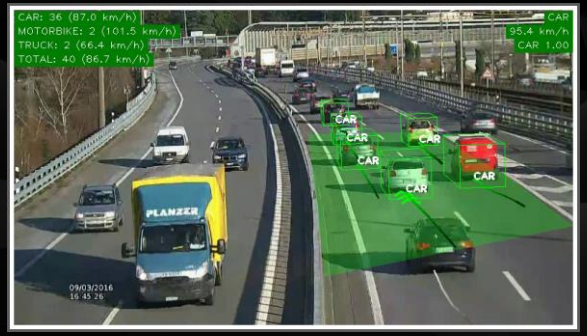
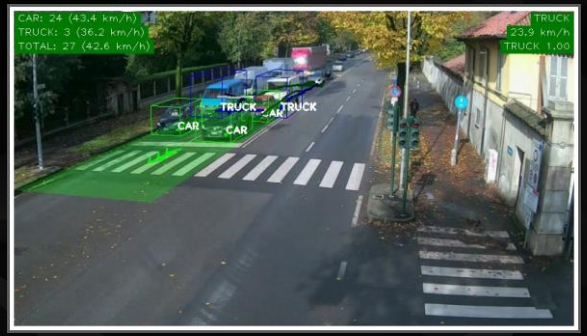
TECHNOLOGY ADVANTAGE

3D Object Tracking + AI





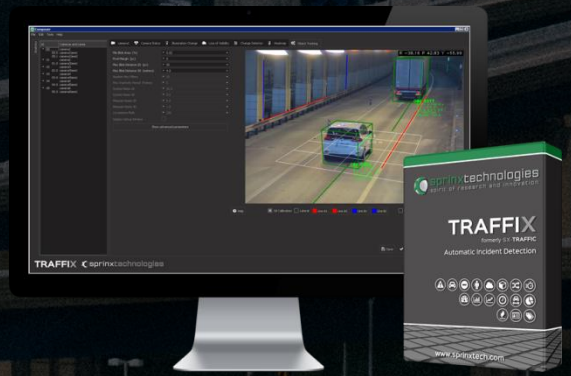
- Better results in low light conditions and with severe glares
- Improved robustness in case of occlusions
- Combined with 3D analysis allows to improve object classification performance

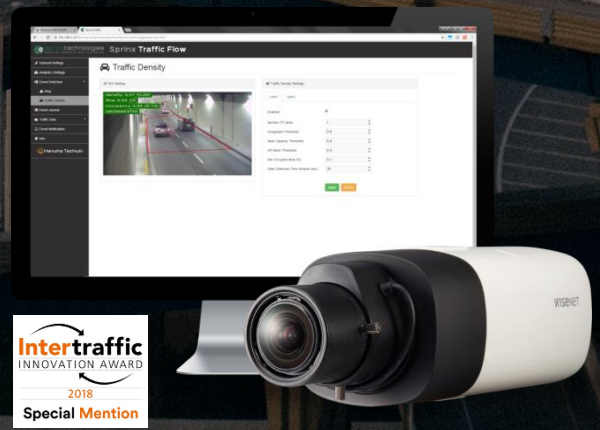
COMPETITIVE ADVANTAGES

	sprinx technologies	COMPETITORS
IMAGE ANALYSIS APPROACH	*Reduction of false alarms and improvement of performances*	2D
CALIBRATION & SETUP	*Minutes each camera*	
AID FUNCTIONS RUNNING SIMULTANEOUSLY	*All the detection features simultaneously*	
AVAILABLE SOLUTIONS (SERVER / EDGE/ HYBRID)	*Scalable and flexible*	
BUSINESS MODEL	*Software only Hardware independent*	

HOW WE PROVIDE IT

Hardware Independent Software Solution





Intertraffic INNOVATION AWARD 2018 Special Mention

SERVER BASED

EDGE BASED

HYBRID

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THE INTEGRATION WITH THIRD PARTY SYSTEMS

AID AS A BRICK OF AN ITS SYSTEM

VMS PLATFORMS

- Genetec
- Milestone
- Wisenet Wave
- SeeTec
- IndigoVision NVR
- Mirasys

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TRAFFIX

Server-based solution for AID and Traffic Data Collection

TRAFFIX

Server-based solution for AID and Traffic Data Collection

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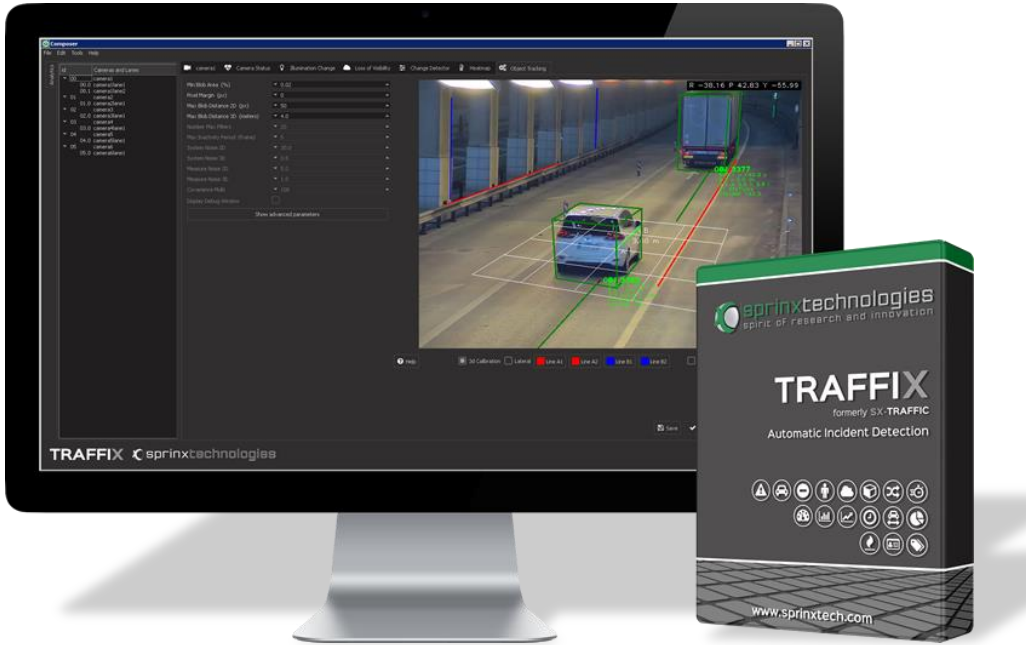

TRAFFIX (formerly **SX-TRAFFIC**) is a complete and professional server-based solution for Automatic Incident Detection and Traffic Data Collection. It allows reliable detection of incidents and anomalies in traffic flow on critical infrastructures such as highways, tunnels and intersections.

TRAFFIX is more than a standard AID software.

In addition to analyzing images from standard IP cameras to detect traffic incidents, it is able to collect traffic events and data processed by **Sprinx TRAFFIC Applications** and license plate information from ANPR cameras.

Events and Data coming from different **TRAFFIX** servers can be easily visualized in a single cloud ready dashboard called **DRAGON**

TRAFFIX

Server-based solution for AID and Traffic Data Collection

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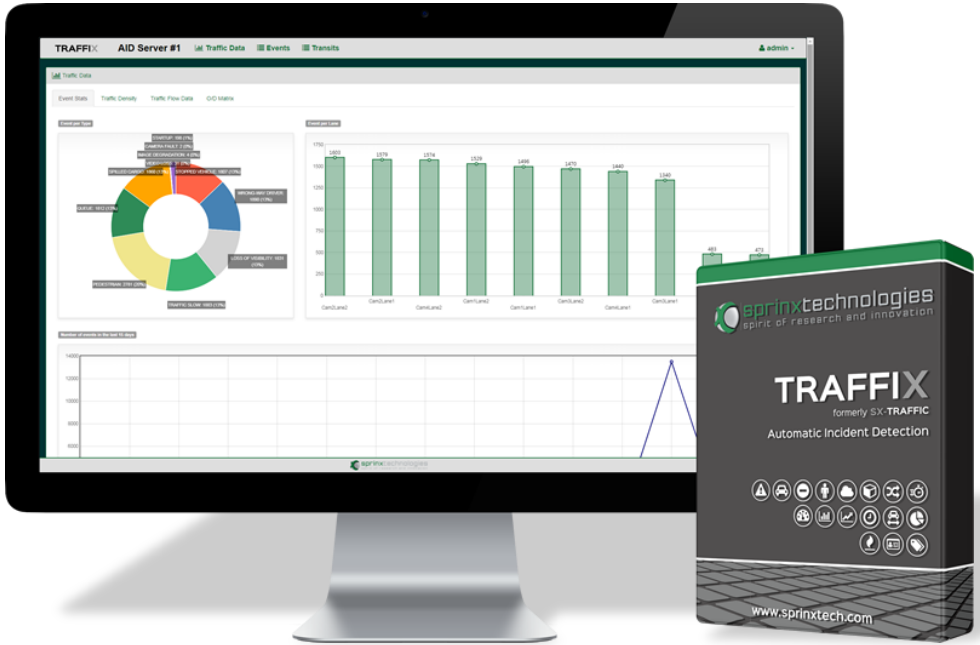

- AID analysis up to 16 ch (800x450 resolution @12fps)
- ONVIF and RTSP cameras supported
- Up to 4 lanes for each camera
- System and Detection settings via Client application
- Alarm and Event reporting via Web interface
- Integration with 3rd party systems via:
  - TCP messages
  - OPC-DA & OPC-UA protocol
  - Modbus protocol
  - Dry contacts on Moxa I/O device
- Integration with VMS platforms:
  - Genetec
  - SeeTec
  - Milestone
  - IndigoVision NVR
  - Wisenet Wave
  - Mirasys
- Data collection from Sprinx Traffic AID cameras
- Data collection from LPR cameras
- Video clip of traffic events (option)
- Failover configuration (option)

TRAFFIX

System Architecture – Single AID Server

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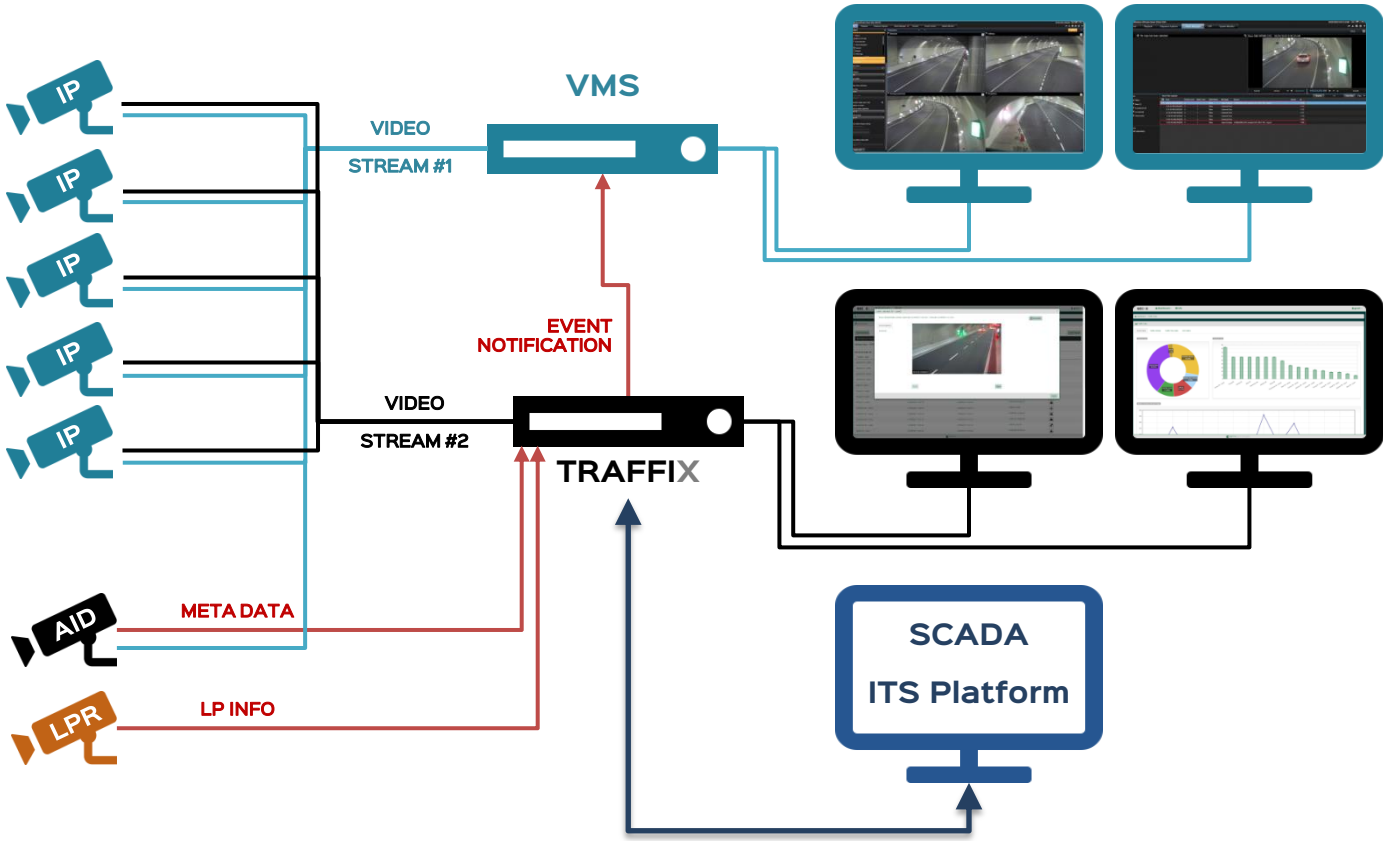

TRAFFIX

System Architecture – Multiple AID Server

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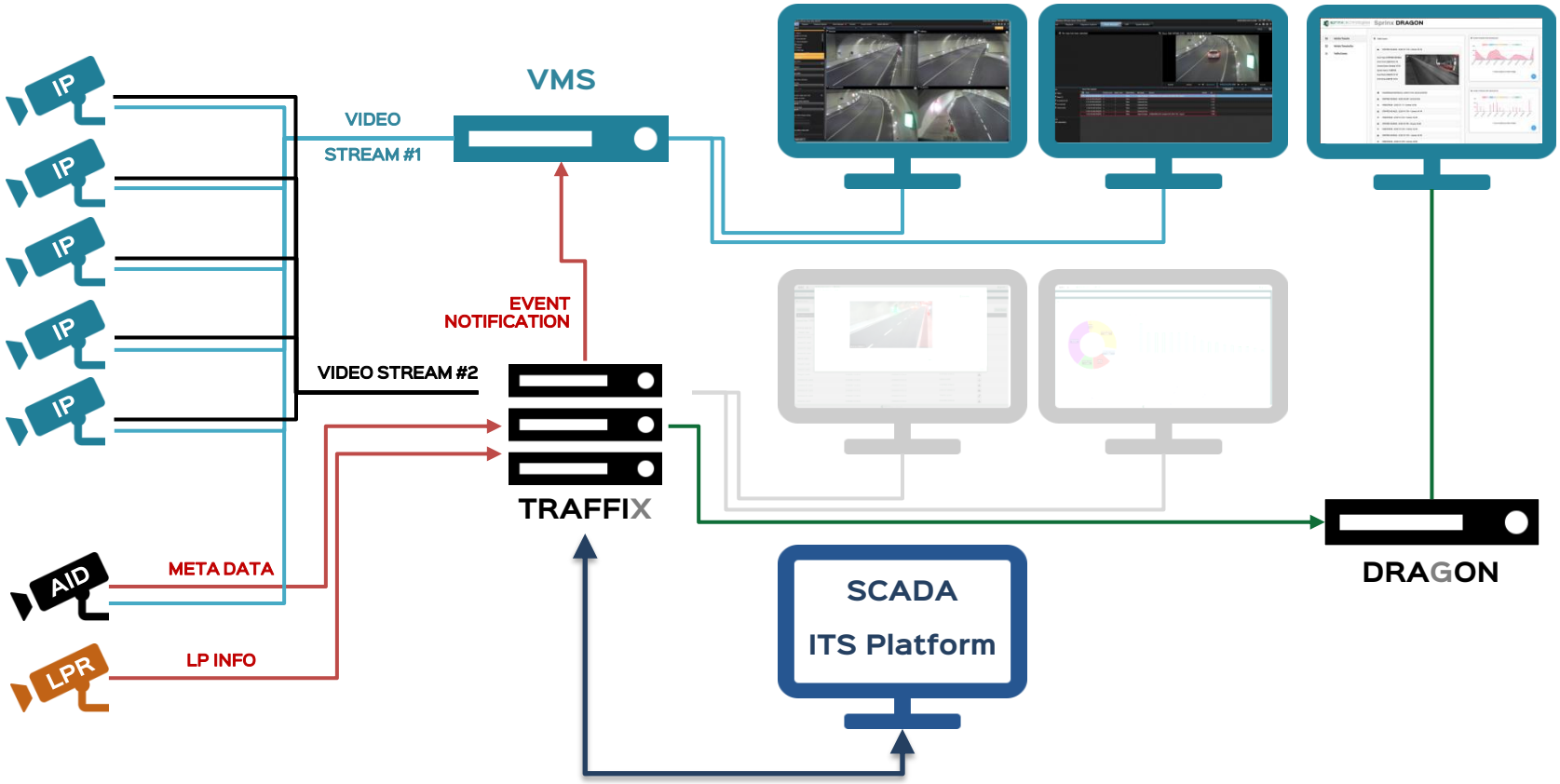

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TRAFFIC Applications

Edge-based software for AID and Traffic Data Collection

TRAFFIC Applications

Edge-based software for AID and Traffic Data Collection

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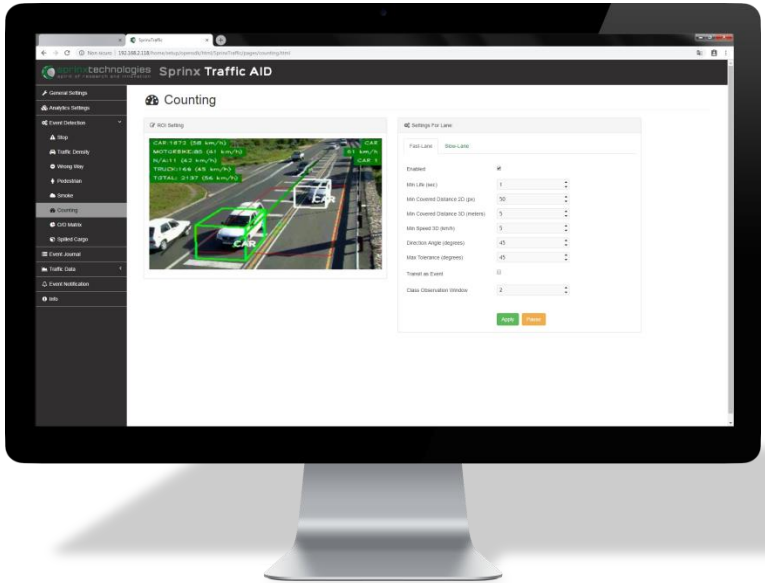

- Based on the pioneering 3D object tracking and innovative traffic algorithms, award-winning technology at Intertraffic Innovation Awards 2018
- Easy & Fast to deploy
- Running on standard CCTV cameras
- Cost-effective and non–invasive

Intertraffic
INNOVATION AWARD

“ Sprinx Traffic AID software application is an excellent example of a growing trend across the industry of taking simple cameras and turning them into something much smarter, using software-only solutions. “

Intertraffic Innovation Award Jury

TRAFFIC Applications

Edge-based software for AID and Traffic Data Collection

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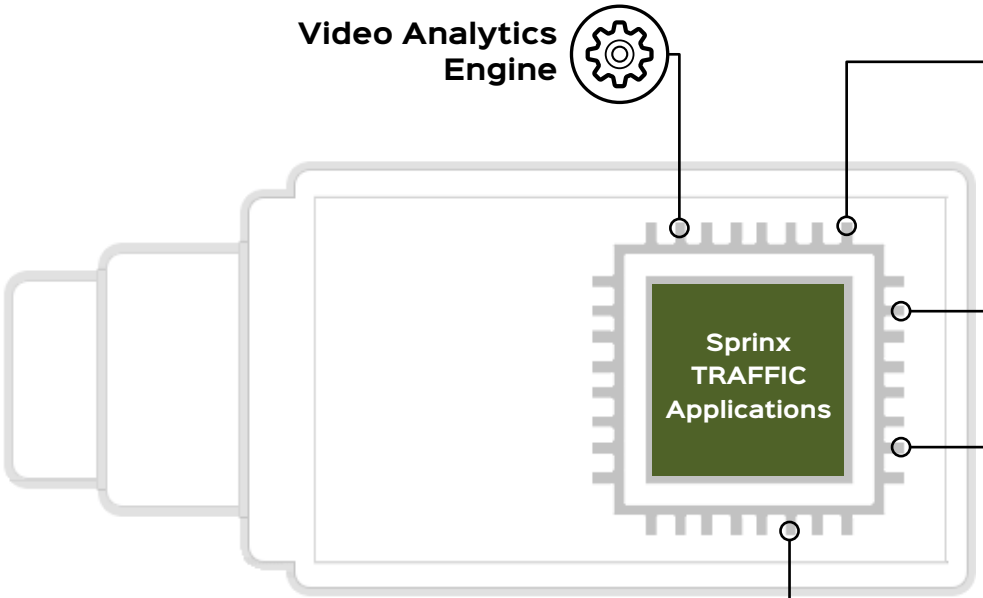

Video Analytics Engine

Web User Interface
On-board interface for the configuration of Video Analytics

Dashboard
Comprehensive Traffic Data Visualization

Event Journal
List of the events detected by the Engine with all the details about the alarm, snapshot included

Communication Interface
Multiple methods to communicate Events and Traffic Data to 3rd party systems

TRAFFIC APP - DENSITY

Edge-based application for Traffic Flow analysis

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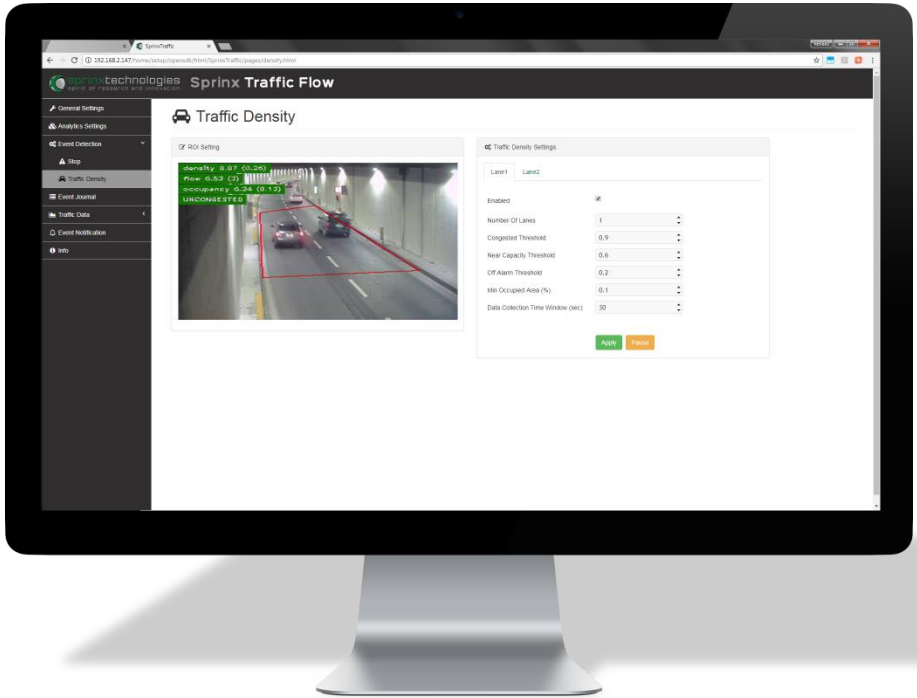

- STOPPED VEHICLE
- TRAFFIC SLOWDOWN
- TRAFFIC CONGESTION / QUEUE
- TRAFFIC DENSITY (LoS)

TRAFFIC APP - DATA

Edge-based application for Traffic Data Collection

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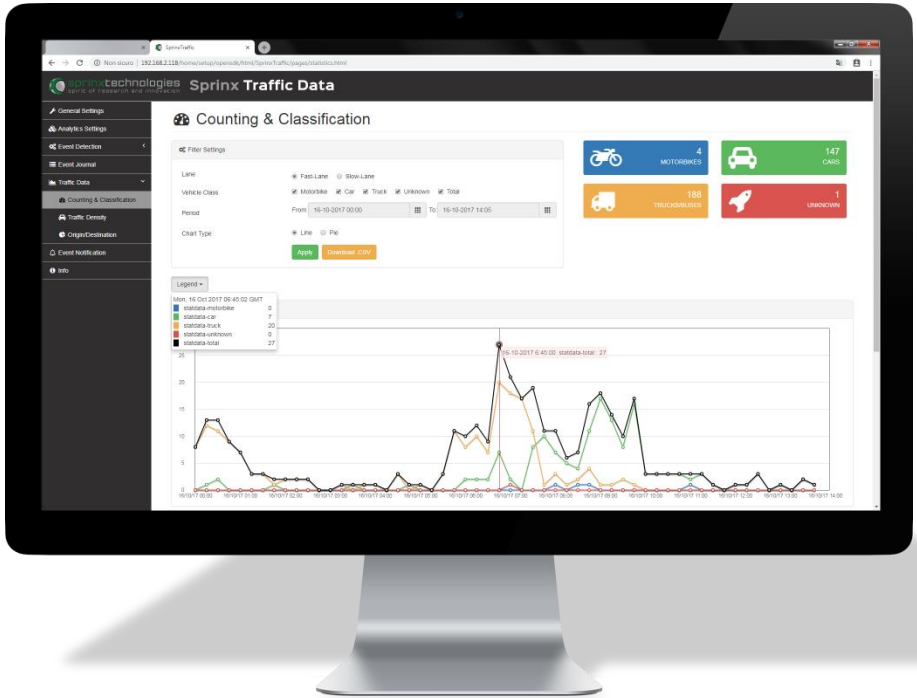

- VEHICLE COUNTING & CLASSIFICATION
  - Motorbikes
  - Cars
  - Trucks & Buses
- AVERAGE SPEED
- TRAFFIC DENSITY (LoS)
- ORIGIN / DESTINATION MATRIX

TRAFFIC APP - PREMIUM

Edge-based application with full AID features

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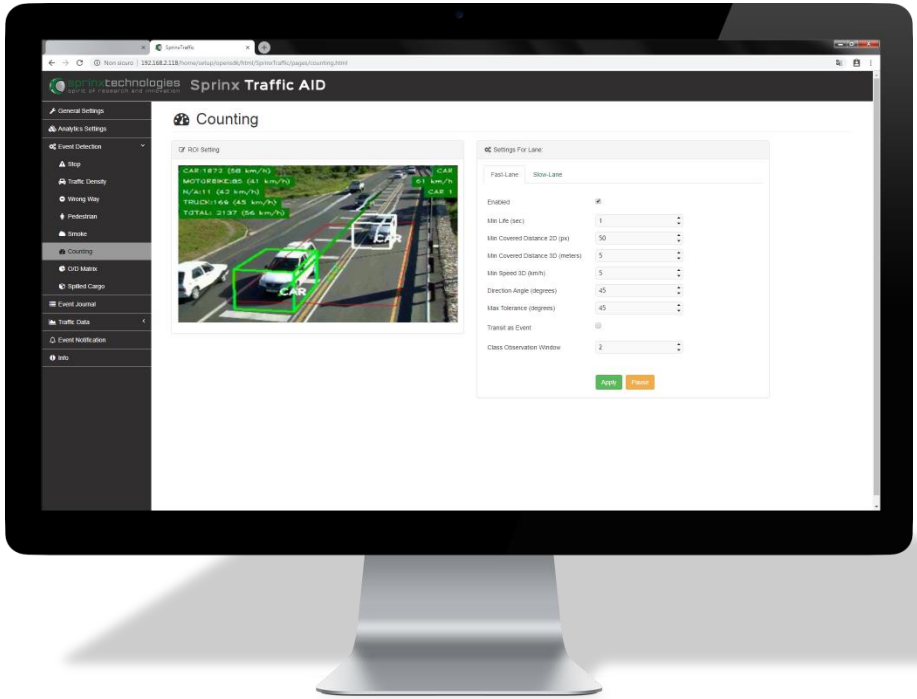

- STOPPED VEHICLE
- SLOWDOWN & CONGESTION (QUEUE)
- WRONG WAY DRIVER
- PEDESTRIAN
- SMOKE / LOSS OF VISIBILITY
- SPILLED CARGO
- VEHICLE COUNTING & CLASSIF.
- AVERAGE SPEED
- TRAFFIC DENSITY (LoS)
- ORIGIN / DESTINATION MATRIX

TRAFFIC APP - WWS

Edge-based application on Thermal cameras

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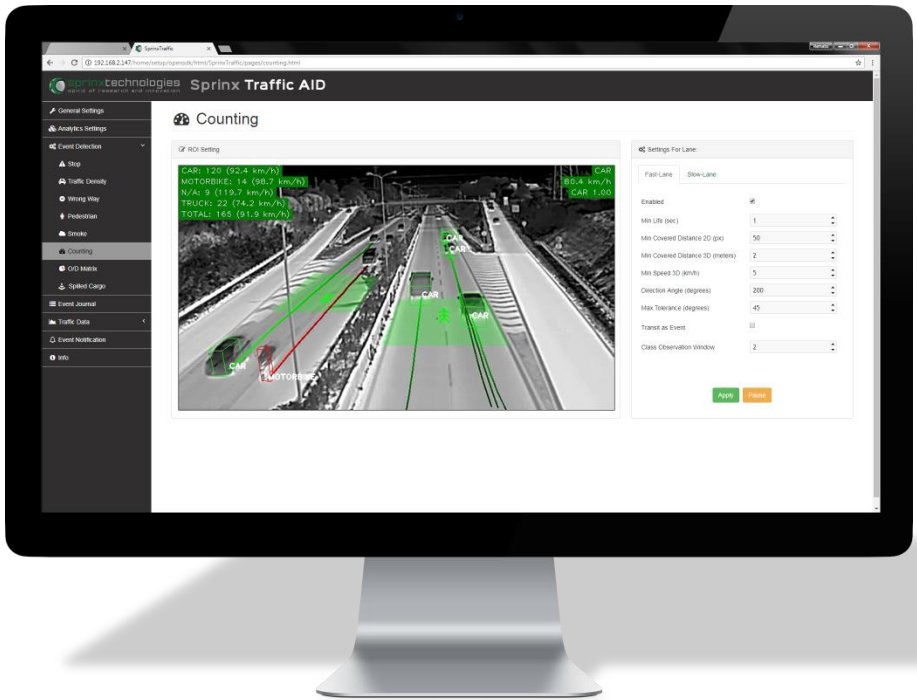

STOPPED VEHICLE

WRONG WAY DRIVER

TRAFFIC Applications

Edge-based software for AID and Traffic Data Collection

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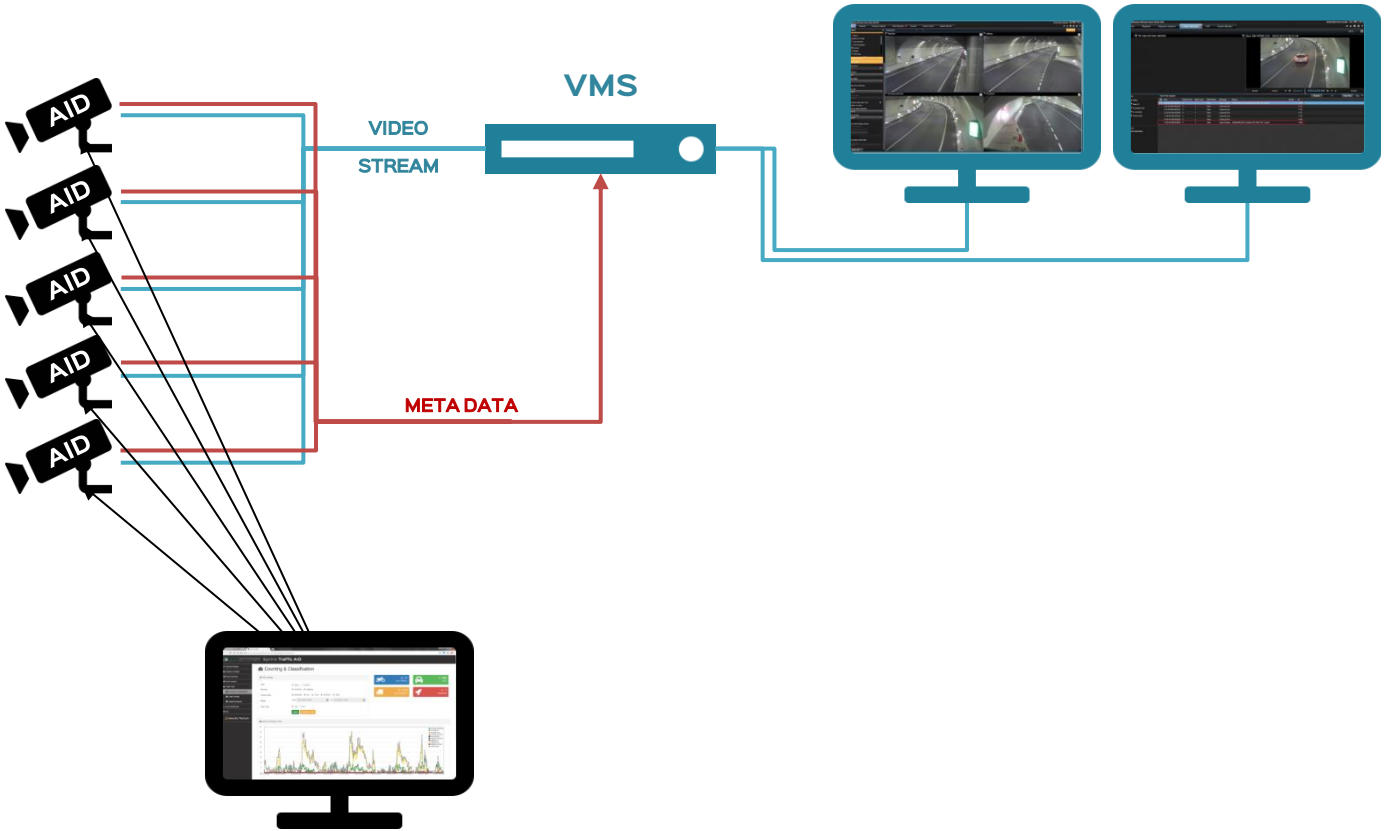

GECKO Traffic Hub

Software applications for collecting and aggregating traffic data

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GECKO Traffic Hub is a software application for collecting and aggregating data from multiple network-connected cameras running Sprinx TRAFFIC Applications on board. Through its web user interface, it enables a quick overview of all traffic events detected by the cameras and provides comprehensive graphs about traffic data such as vehicle counting and average speed.

GECKO Traffic Hub includes a PDF exporting tool of the collected events, helpful for operators in evaluating the performances of the system.

In complex architectures **GECKO Traffic Hub** can work as a proxy server forwarding all the events collected from the cameras to 3rd party systems including SCADA, PSIM, ITS and VMS platforms. This features definitely simplifies the integration process avoiding the communication with every single camera connected on the network.

Data coming from multiple **GECKOs Traffic Hub** can also be displayed into a single cloud-ready data visualization platform called **Sprinx DRAGON** which provides interactive reports and dashboards performing detailed graphs and charts.

GECKO Traffic Hub & DRAGON

Software applications for collecting and aggregating traffic data

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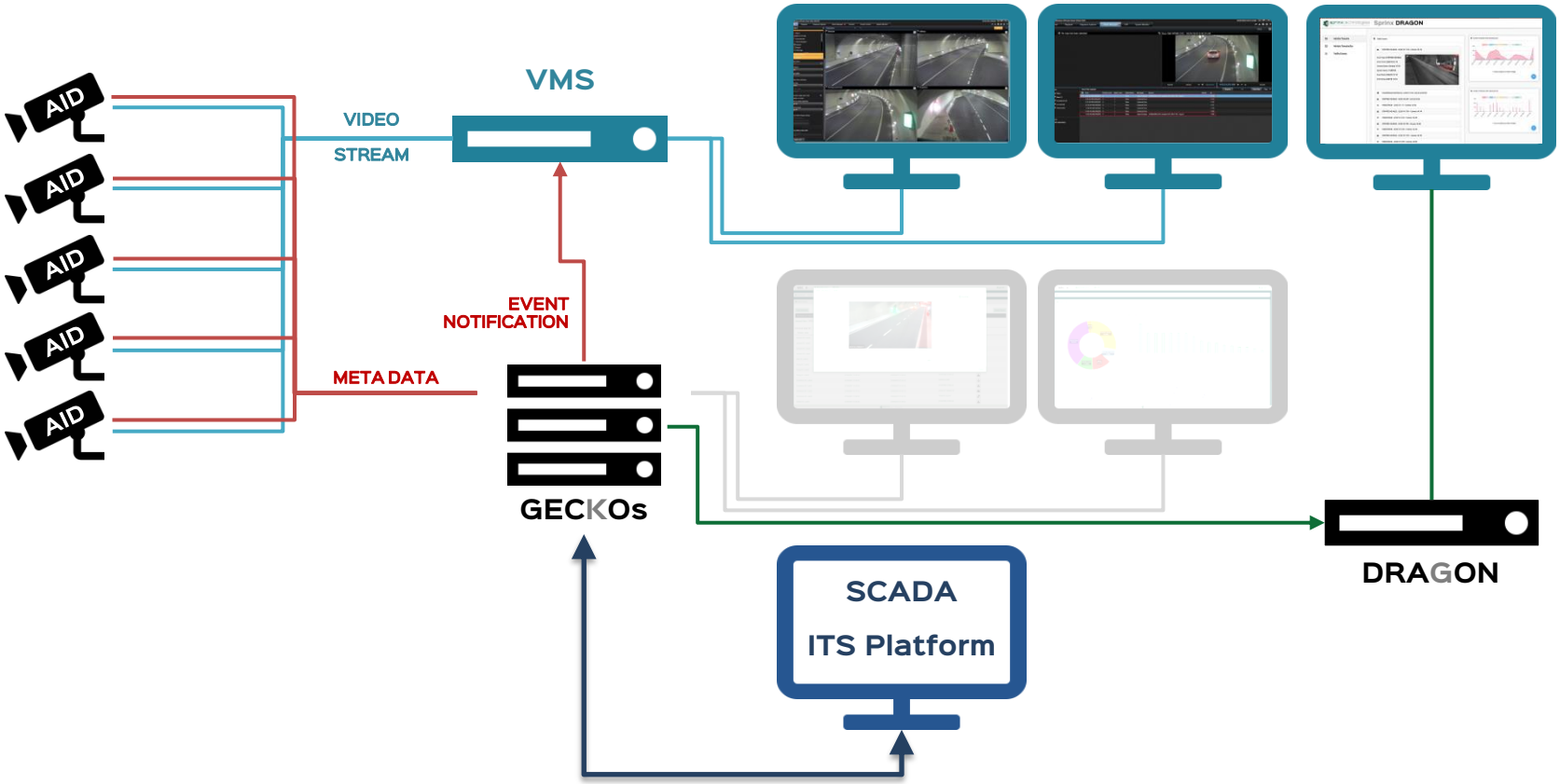

Software Packages

Software for AID and Traffic Data Collection

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	STOP	SLOWDOWN & QUEUE	PEDESTRIAN	LOSS of VISIBILITY	WRONG WAY	SPILLED CARGO	UNDERSPEED OVERSPEED	UNSAFE LANE CHANGE	CLASS DETECTION	TRAFFIC DENSITY	COUNTING & CLASSIFIC.	AVERAGE SPEED	VEHICLE DISTANCE	O/D MATRIX
DENSITY(1)	●	●								●				
DATA										●	●	●	●	●
BASIC	●	●	●	●(2)						●				
PRO	●	●	●		●					●	●	●	●	●
ADVANCED	●	●	●	●(2)	●	●	●	●	●	●				
PREMIUM	●	●	●	●(2)	●	●	●	●	●	●	●	●	●	●
WWS(1)	●				●									

(1) Only available at the Edge

(2) Not available with Thermal cameras

Software Connectors

Integration with 3rd party systems

	Proprietary Protocol	Directly from the Device	Communication via GECKO	Events	Traffic Data
Genetec		•		•	•
milestone	•		•	•	
WISENET WAVE	•		•	•	
MIRASYS		•		•	
SeeTec An OnSSI Company		•		•	
TRAFFICSCANNER		•		•	•
LOGICITY		•		•	•
LINCE		•		•	

Software Connectors

Standard Protocols

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	Directly from the Device	Communication via GECKO	Events	Traffic Data
TCP Message (JSON)	●	●	●	●
OPC-DA		●	●	
OPC-UA		●	●	
MODBUS		●	●	
MOXA Network I/O Device		●	●	

ver. 4.3.0 [en]

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