Introduction of

Picomixer STA (Smart Traffic Analyzer)

The professional project for

Urban & Road Traffic Management ( & Highway Administration )

Vehicle counter and traffic analysis software, using artificial vision

In order to incident detection, data collection and planning for road safety based on artificial vision (artificial intelligence and video processing), that turns any traffic monitoring camera into an advanced A.I. Robot.
This document contains four sections about Picomixer STA (Smart Traffic Analyzer):
- General Features Of STA
- Screenshots (Some parts of the program)
- Video Sources & Options
- Contact Information

General Features Of STA 17.0.0:

- Highway/Road/Street (but not intersection) traffic analysis using artificial intelligence and video processing
- Counting and classification vehicles (per direction (including several lanes)) in different classes:
  - Categorizing vehicles in 2 groups:
    - Light Vehicles
    - Heavy Vehicles
  - Categorizing vehicles in 5 groups:
    - Car
    - Minibus
    - Truck
    - Bus
    - Trailer

  (Ability to detect up to 250 vehicles simultaneously (a unique feature of STA) in two directions (suitable for multi-lane roads))
- Calculating the real-time and average traffic volume
- Calculating the average speed of vehicles
- Incident detection including:
  - Detecting the Accidents and unusual stopped vehicles (Including Large objects falling from the back of trucks)
  - Detecting the vehicles that moving in wrong direction (Including illegal overtaking and move to reverse)
  - Detection of changes in traffic volume, To detecting emergencies on the road such as the accident and road closures, and so on
  - Detection of changes in vehicles speed, To detecting emergencies on the road such as frozen and slippery of the road surface, and so on

  (Ability to use an additional camera to capture the pictures of incidents in another view)
- Providing applicable reports in different forms, including charts, tables, and EXCEL files
- Visualization of traffic congestion as well as to display incidents on a live interactive map
- Flexible to work in different operational environments
- Ability to operate in two modes: Online (connection to the camera), Offline (video files)
- Ability to use different video sources including all standard types of IP Cameras and Analog Cameras
- Ability to integrate with popular video management systems including Milestone XProtect
- And so on.
Screenshots (Some parts of the program)

Counting the vehicles and calculating the traffic volume and speed of vehicle
Incident detection and save the image and report of incidents (with alerts)

**Incident Detection**

To enable detection of different incidents, you should refer to their related forms, or use the following buttons:

- **Accidents & Unusual stopped vehicles**
  - Detecting the Accidents and unusual stopped vehicles (Including large objects falling from the back of trucks)

- **Wrong direction & Overtaking**
  - Detecting the vehicles that moving in wrong direction (Including illegal overtaking and moving to the reverse)

- **Road Emergencies** (Detection of unusual changes in the traffic volume and average speed of vehicles)
  - Detecting the emergencies on the road, such as road closures, frozen and slippery of the road surface

**Save the picture and summary report of detected incidents**

Set the name of sub-folders using: Default, Date

Set the name of sub-folders using: Default Date, Solar Date

**Use an additional camera to capture the picture of incidents in another height and angle of view**

Define a new camera that installed in a different position, to complete the information and pictures of incidents

**Detecting the Accidents and Unusual stopped vehicles**

[Image of Smart Traffic Analyzer]

Welcome to Smart Traffic Analyzer

- **Road Count**
- **Traffic Monitoring**
- **Operations Control**
- **Tools and Shortcuts**

*Note: The image shows a monitoring interface with various counters and traffic monitoring tools. The text block provides a brief description of the traffic monitoring features and incident detection capabilities.*
High flexibility through the ability to apply different settings, to adapt to different environments
Providing applicable reports in different forms, including charts, tables, and EXCEL files.
Visualization of traffic congestion as well as to display incidents on a live interactive map

**STA Dynamic Map** (Live interactive map to visualization of traffic congestion)

"STA Dynamic Map" is another product of Picomixer Company which releases with STA (Smart Traffic Analyzer). It is not an independent software, in fact, it integrates with STA to establish visualization of traffic congestion as well as to display incidents on a live interactive map.

Note: The * Clients (STA) can be installed and works on several (unlimited) separate machines on the network.

To install "STA Dynamic Map" you should install STA (Smart Traffic Analyzer), and refer to:

*STA Options Menu > Additional Tools > Installation & Settings of STA Dynamic Map*
Intelligent Video Surveillance Panel

STA Board

“STA Board” is another product of Picomixer Company which releases with STA (Smart Traffic Analyzer).

STA Board is not an independent software, in fact, it integrates with STA to establish an intelligent video surveillance-system for display camera images and counting results, so in case of multiple runs (STA), you can monitor all images on a single panel (an integrated view).

Note: The * Clients (STA) and STA Board must be installed and works on the same machine!

To install STA Board you should install STA (Smart Traffic Analyzer), and refer to:

STA Options Menu > Additional Tools > Installation & Settings of STA Board
**Data Integration**

It is possible to use STA in the background of your project (as kernel), and use the results of STA Operations in other (third-party) applications.

In this case, the results will be stored in a third-party database (in addition to save data to the default internal database of STA) with your desired time intervals, that you can load and use the data in your intended applications for different purposes such as visualization of the traffic congestion.

Note: The target third-party database can be any popular/standard database (for example: Microsoft SQL Server, Microsoft Access, Oracle, etc.)
Video Sources & Options (video settings and video recording)

Different Video Sources

Ability to use different video sources such as video capture card, and ability to integrate with popular video management systems including Milestone XProtect (Milestone XProtect: Enterprise, Professional and Corporate)

Using the Milestone XProtect DirectShow Filter (MilestoneDX) to loading the video stream.

IP Camera

Connect to the standard network cameras (supports all connection types)
**Player**

Play video files (Supports most popular video formats) to performing offline operations.

**Video Settings**

Adjust the video settings (In Software)

**Video Recording**

Ability to recording the videos in different formats
About Licenses:

The license validity period is **UNLIMITED**.

Each license means covering a camera (at the same time) to analysis the online (real-time) traffic of a Highway / Road / Street (Permanently), that can include several lanes, with one or two directions. Furthermore, you can use the license to analyze the offline traffic on the recorded video files (Unlimited).

Notes:

- “A Camera” is not meant to a specific camera, as you can switch between several cameras! But If you want to analyze the online (real-time) traffic of the several highways / roads / streets — (concurrently), then for each Camera, you will need an Independent license.

- Each license is related to a specific Computer so you cannot use your license on several Computers! If you face any problem with the computers in the future, We have several solutions for this situation, For example, We will disable (deactivate) your previous license and we will give you a new license!

- Discount on each purchase (each payment) will be calculated independently.

Support:

You can always download new versions and upgrades as soon as they released (**Forever - Free**).

Also, if you face any problems, or need help with this product, you can contact our Support Team via e-mail.

We will do our best to help you as soon as possible.

If you have any questions please do not hesitate to contact us. Our experts are ready to answer all of your questions.

Contact Information:

**Official Website:** [www.picomixer.com](http://www.picomixer.com)

**Quick Contact:** contact@picomixer.com

Note: Quick Contact is available 12 hours a day, and all days a week, to handle the Sales & Support Requests.

Skype ID: Picomixer (for online support via text chat)

Note: Respond to international contacts via e-mail (In English).