Why Saisun’s Wireless Automatic Traffic Counter and Classifier (ATCC)?

The Indian Government’s commitment to providing the current and future India with wide, uncluttered, and safe roads has urged the NHAI to demand that Concessionaires periodically submit HTMS data to the planning departments. Analysis of this data enables the planning departments to take key highway expansion and maintenance decisions for the future.

In addition to using the HTMS data to fulfill statutory requirements, Concessionaires also use this data as a base for comparing with the traffic metrics collected by the toll plazas. This comparative analysis reveals ‘leakages’ or ‘holes’ in the toll plaza data, which if eliminated, can significantly up the revenue and down the losses of Concessionaires.

Therefore, for the benefit of Concessionaires and of the nation at large, it is imperative that the HTMS data be accurate, the data collection process reliable, and its implementation easy!

Traditionally, Concessionaires have relied on the vehicle count and attributes reported by the AVCC (Automatic Vehicle Traffic Counter and Classifier) system for verifying the correctness of the toll plaza data. The bane of this system is that:
- It involves costly and cumbersome implementation and maintenance
- It requires high manpower
- It reports inaccurate traffic metrics

The result? Inaccurate HTMS data is made available to the government, resulting in unrealistic, ineffective road expansion plans for the future.

Moreover, many leakages also go undetected, causing Concessionaires to incur significant losses! In fact, a recent study on the effectiveness of the AVCC system revealed an average of 2% of leakages in the traffic volume on national highways.

![Average Volume of Traffic on National Highways](image)
If this leakage in traffic volume is converted into rupees, the yearly loss could run to a few crores per toll, as indicated by the table below:

<table>
<thead>
<tr>
<th>Per TOLL</th>
<th>Min. Average Amount per Year</th>
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<tbody>
<tr>
<td>Leakage</td>
<td>2% x Rs.200 x Over All Traffic per Year</td>
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<tr>
<td>Approximate Leakage in Value</td>
<td>Rs. 2 Cr</td>
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To minimize leakages and maximize revenues for Concessionaires, and to ensure that the government has a credible set of traffic reports to work with, Saisun offers a cost-effective, easy-to-implement, and an infinitely more reliable alternative to AVCC. This is the Wireless Automatic Traffic Counter and Classifier (ATCC).

**ATCC – The Saisun Solution**

Using advanced wireless technology, Saisun’s ATCC solution captures the number and type of vehicles that pass through with 100% accuracy. Detailed and summary reports on traffic can then be instantly generated using ATCC’s reporting engine and submitted to government authorities as stipulated. Such reports include daily, weekly, and monthly comparison reports, reports revealing shift-wise traffic count, and even custom reports required by clients. Concessionaires can also compare the data in these reports with the traffic count and type data collected by toll plazas and quickly isolate leakages.

The salient features of the ATCC solution include:

- **Multi Technology Detection**
  Saisun’s Wireless ATCC employs three independent physical detection principles – namely, Doppler radar, Ultrasonic, and Passive infrared. These detectors help automatically and accurately detect the vehicle type.

- **100% accurate vehicle count/volume computation**

- **Standardized Vehicle Classification**

- **Auto Calibration**
  Calibration within the recommended height above the lane with dedicated software.

- **Spot–on detection of anomalous traffic conditions**
  Saisun’s ATCC can precisely capture and report deviant vehicles:
  - Detection of lane-changing vehicles and vehicles travelling between adjacent lanes
  - Detection of standing vehicles
  - Detection of wrong-way drivers

- **Vehicle speed computation**
Occupancy and headway/time gap measurement

Wide operating temperature range (−40 to +70°C (−40 to 158°F))

Remote Configuration and Setup

Benefits of Wireless ATCC

**Easy and cost effective Installation:** Saisun’s ATCC solution is WIRELESS. This dispenses with the need for expensive wires and the laborious laying of wires, thus eliminating all related costs. Instead, Saisun’s solution only requires that advanced IR cameras fitted with sensors be installed on poles; this involves less manpower, inexpensive equipment, and reduced costs.

**100% data accuracy and integrity:** The ATCC Series are advanced traffic detectors capturing comprehensive traffic data including individual vehicle class for up to 8 vehicle categories, speed, length, occupancy time and time gap with 100% precision. Since critical infrastructure development plans of the nation are dependent on these metrics, reliable and effective plans are sure to be born out of these accurate metrics. Likewise, Concessionaires can also detect leakages accurately using these metrics and initiate the right efforts to minimize them.

**Long term durability:** Perched safely at a minimum height of 5.5m above the road-level, Saisun’s ATCC solution is inherently insulated against thefts and damages. This way, the long term availability and durability of the system is ensured.

**Low Maintenance:** The auto-calibration feature of the ATCC solution reduces the risk of human errors that may creep in and rework that may be necessitated if instrumentation is done manually. Moreover, its relatively easy and inexpensive to maintain this solution, as it does not require that roads be redug to carry out maintenance activities and later be relaid. Also, the cameras used by the ATCC solution need to be serviced only once in 3 years, resulting in significant savings in maintenance costs.

**Easy Portability:** How much time would it take to move a camera on a pole from one location to another? No time at all! And that’s how portable the ATCC solution is. This way, location change decisions can be taken without the fear of time, trouble, or cost!

**Data redundancy:** Saisun’s ATCC solution delivers high data redundancy, thanks to its Dual SIM based technology. The data can be transferred to any patrol vehicle or an ambulance through wireless Dual SIM based technology.

**Quick ROI:** Since the cost of the ATCC solution is low, Concessionaires need to invest only a modest amount to install and get the system up and running. Once the solution is operational, leakages become easy to detect and crucial traffic reports can be generated effortlessly. With both Concessionaires and the government benefiting from this outcome, the investment in the ATCC solution can be recovered within the first 2 months of installation itself!

These benefits are why Saisun’s camera-based ATCC compares very favorably with its loop sensor-based and fibre-based predecessors:

<table>
<thead>
<tr>
<th>Solution</th>
<th>Saisun Camera Based ATCC</th>
<th>Loop Sensor Based/Fibre-based ATCC</th>
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<tbody>
<tr>
<td>Installation</td>
<td>Easy</td>
<td>Cumbersome; requires optical fibre cable to</td>
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<tr>
<td></td>
<td>Accuracy</td>
<td>Durability</td>
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<td>100%</td>
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**Summary**

Saisun’s ATCC is an easy-to-use, financially viable solution to Concessionaires who are looking to furnish useful data on traffic volume to the government and annul the losses arising out of traffic leakages. For more details about the solution, contact info@saisunsolution.com