

SMATS INNOVATION HIGHLIGHT



COMPANY OVERVIEW

SMATS Traffic Solutions uses machine learning / artificial intelligence algorithms and hardware traffic sensors to provide traffic analytics data in real-time. This information is beneficial to traffic management offices, allowing them to monitor and manage traffic delays effectively. Traffic offices also use this data to make more efficient use out of their infrastructure capacity.

LOCATION: OTTAWA, ON



Internet of Things





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MONITORING TRAFFIC THE OUTDATED WAY

Monitoring traffic is by no means easy. Often a time-consuming process, traffic counter devices are often used to manage traffic only at certain intersections or roadways. These devices have to be setup manually, installing the systems onto certain areas and monitoring traffic that drives by. Even worse, traffic monitoring is also done manually. Observers count and record traffic on an electronic device or a tally sheet. These options limit traffic monitors, taking time to set up each area manually and record without any insight into real-time data.

SMATS – REAL-TIME TRAFFIC MONITORING

Offering an advanced traffic monitoring solution, SMATS uses loT sensors and machine learning algorithms. Used by major cities and boarder agencies around the world, SMATS traffic sensors are placed at different checkpoints, detecting MAC addresses of nearby Bluetooth and WiFi devices to measure travel time and delay between two points on the road. When deployed, these sensors generate hundreds of thousands of records every day and these records are transferred to the SMATS cloud server (iNode) on a continuous basis. From there, traffic monitors can gain insights on traffic metrics in real-time without the manual setup hassle.

MORE THAN JUST A ROADWAY TRAFFIC MANAGEMENT SOLUTION

The market opportunity in traffic management systems like SMATS is estimated to be \$80 billion dollars by 2022. But the opportunity for SMATS doesn't end there, the company plans on expanding its line of products beyond traffic, including crowd metrics such as amusement parks wait-times. In order to continue their successful growth, SMATS needed to ensure their cloud application is be highly available and scalable. While at CENGN, SMATS scale tested their solution on a Kubernetes architecture validating both the high availability of their solution and the ability to have cold standby backups to protect collected data from any server failures. The tests also gave SMATS confidence to run their solution up to 400 sensors. The information from these tests enable SMATS to continue to optimize their solution and prepare for larger clients and different market sectors.

"Thanks to CENGN, SMATS could identify the optimal ratio of the number of the deployed hardware sensors versus the amount of resource for optimizing the cost of servers."

> Reza Ghods, Software Architect SMATS