Baroda-Ahmedabad National Expressway has High iQ

The Baroda-Ahmedabad National Expressway in Gujerat, India, is 102.3 km. It used to take two and half hours to drive from one city to the other. Today, thanks to this highway, the journey can be completed in just under an hour. The expressway has five toll plazas, emergency crossovers, traffic & medical aid posts, vehicle rescue posts, pedestrian facilities, parking places and utilities.

Larsen and Toubro (LNT) had won the contract to install an intelligent Traffic Management System for this road and their initial plan was to implement software from a small Indian video analytics company. Today they have decided to install an iOmniscient Traffic Management System because only it could provide the sophisticated intelligence required to cope with their very complex requirements which included the detection of:

- Speeding (through video alone)
- Debris on the road despite obscuration by other vehicles
- Vehicles parking or stopping illegally despite them being obscured at times by other vehicles.
- Accidents despite these being obscured at times by other vehicles
- Vehicles travelling in the wrong direction
- Congestion

The solution is armed with iOmniscient's unique artificial intelligence based Nuisance Alarm Minimisation System (NAMS) which helps to accurately detect events and reduce false alarms.

LNT continues to be a major supplier of systems for roads and highways and iOmniscient is pleased to be their preferred supplier of Intelligent Traffic Systems and other video analytics for Smart Cities.

Advanced Intelligent Traffic Systems (ITS) from iOmniscient

Having learnt from our experiences in implementing ITS systems even in the most difficult environments in India and China, iOmniscient offers three variations of its ITS systems - for Highways, Tunnels and general Urban areas, recognizing that each of these environments has its own particular challenges. For instance, in tunnels one has to be able to detect Smoke and Fire even when these are obscured by trucks and other moving traffic. In urban areas one has to worry about vehicle and pedestrian traffic interacting together.

As with many of iOmniscient's products we offer a basic version designed to be equivalent to or better than the best alternative products available in the market and a standard version which is designed to offer superior capability that no one else can offer. The table shows the differences between these two versions for Tunnels.
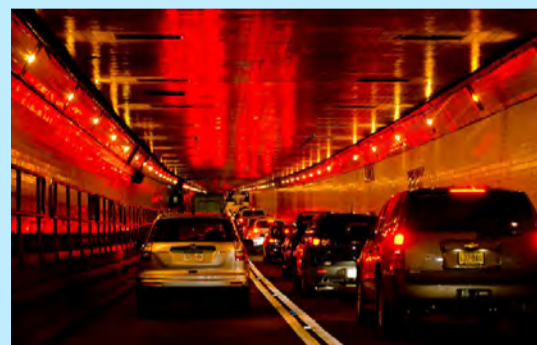
Click here to see a table that shows the differences between these two versions.

33 PATENTS across **12** technology families
across **4** geographies

Life at the Edge just got more exciting with the iQ-Implant

There has been considerable interest in using Edge based analytics and many camera companies offer some basic level of software embedded in their cameras. Unfortunately the chip normally used today for such embedding does not have the capability of running anything but the simplest video analytics. One just could not run any algorithm focused on behaviour in crowded and complex scenes.

Now in conjunction with its partner Intel, iOmniscient is pleased to offer the Super Edge (SE-015) with an IQ-Implant. This tiny device (11cm x 11cm with a depth of less than 1cm) can run iOmniscient's iQ-Infinity - the ultimate analytics for crowded and complex environments. It can connect up to 3 cameras and run more than 20 applications simultaneously. The device can connect directly to a work station or a smart phone.

The little appliance is called a Super Edge device because of incredible capability that is packed in its tiny form factor.

The iQ-Implanted Super Edge has the following significant benefits:

- **Easy Retrofit**: It can turn any existing camera into an Edge camera.
- **Small and Powerful**: It can support multiple cameras and is powerful enough to run all of iOmniscient's most sophisticated behaviour analytics simultaneously.
- **Extremely Cost Effective**: It is very inexpensive making it irresistible for those who want to add intelligence to one camera or to a whole network of cameras.
- **Outdoor Version**: A ruggedized version is available for outdoor use.

If you have a network of old cameras and you want to make them smart, you don't have to replace them - just implant them with some High IQ intelligence from iOmniscient.

Face Analytics: Dwell Time Management

How long does a shopper spend in the vegetable section relative to the chocolate section in a store? Does it make a difference if they are male or female? old or young?

How long does it take a passenger to go from the plane to the Immigration Counter? How long does he spend in the Immigration queue?

These types of questions can be answered by iOmniscient's Face Analytics system for "Dwell Time".

Face Analytics is different to Face Recognition in that there is no requirement to maintain a long term database. But the system still uses iOmniscient's unique patented Face Recognition in a Crowd system to enrol faces in real time and to check how long it takes the person to go from A to B.

It is useful for addressing a range of applications such as:

- determine if someone is loitering across multiple non-overlapping cameras.
- count the number of faces to understand the traffic flow.
- understand dwell time across multiple points.
- identify bottlenecks and generate alerts when travel or waiting time exceeds a threshold.
- provide a comprehensive reporting tool that can be used for prediction and planning.
- associate a boarding pass (in an airport) with the face information. The system can be used to track individual passengers who may be running late for boarding.
- create the customer database dynamically for managing the dwell time -but exclude staff.
- track where an individual /suspect/VIP has come from and track the person across non overlapping cameras even when the person has changed the colour of their clothes (e.g. by wearing a coat).

What makes iOmniscient's system unique is that it requires an optimal resolution of only 22 pixels between the eyes - something no one else can do. Because of this, when attempting to recognize people in wide areas one requires 5 to 10 times fewer cameras to cover the area. This results in a massive saving not just in terms of the cost of the camera but all the related expenses - you need less computers, less installation and less software licenses.

Further because the iOmniscient Face Analytics system works in a CROWD, we can simultaneously check on a large group of people moving within the camera view simultaneously - up to 75 faces on a one megapixel camera.

Most importantly all the faces can be anonymised to protect the privacy of individual.

This is just one of the new advanced Business Analytics capabilities from iOmniscient.

Winner - Global Security Challenge for Crowded Places