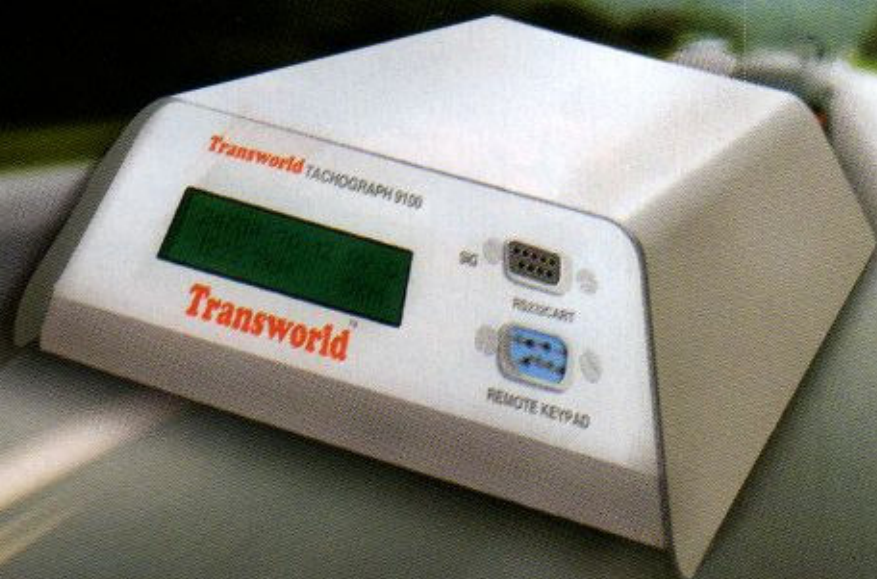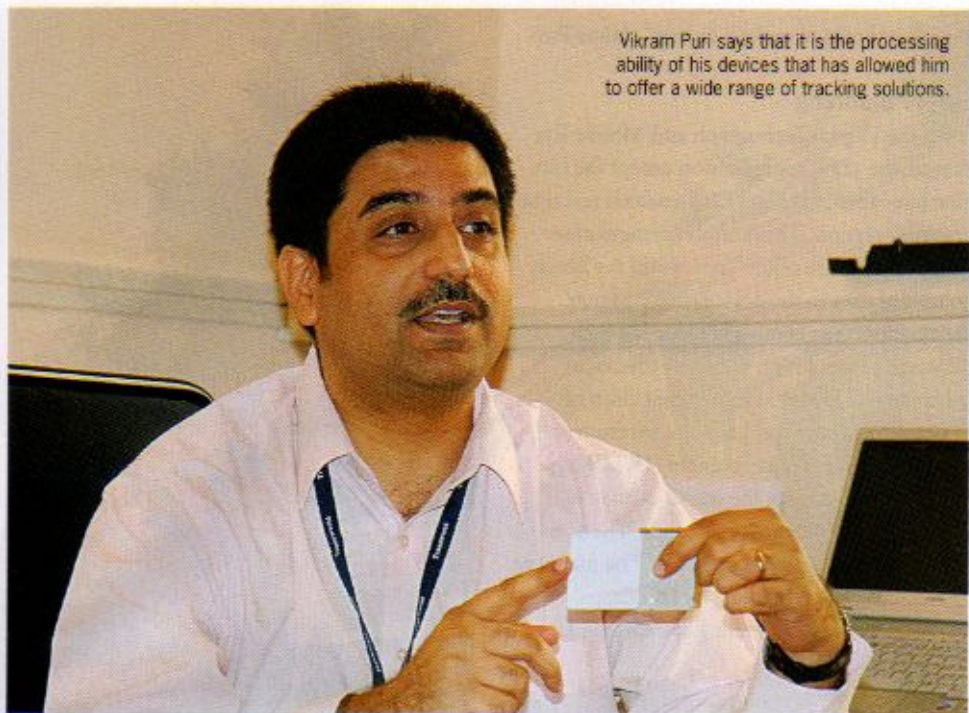# Telematics
redefined

Transworld is not restricting itself to tracking CVs. The age of the Indian tachograph is upon us. Also, a bevy of sensors are helping make the transport industry a more predictable space.

Story Ahfaaz Khan Photography Sawan Sekhar Hembram

Vikram Puri says that it is the processing ability of his devices that has allowed him to offer a wide range of tracking solutions.
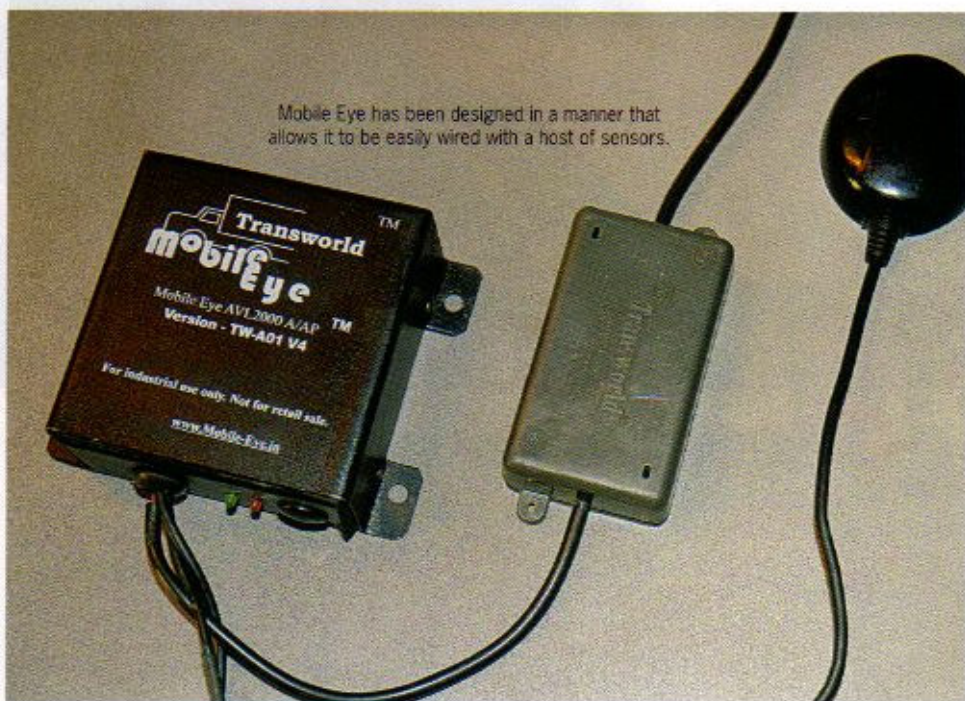
card in the reader integrated with the Mobile Eye. There is also a provision wherein driver information can be validated and the vehicle is to be started only when the information is found to be completely accurate.

While the digital tachograph is an offline product with manual and Wi-Fi modes of downloading options, Mobile-Eye comes in both the online and offline versions.

The tracking in both of these devices is done every second. Apart from offering a wide field to roll out solutions, such close monitoring also means considerable inflow of inputs on the server if one goes by conventional practice. Usually, tracking devices employ an 8-bit micro controller, which takes data from the GPS and pumps it through the modem to a dedicated server. The processing of the data is then carried out at the server. Hence when it comes to tracking a device every second, the server needs to be that competent to handle and process information coming in every second.

According to Puri, ' Someone with conventional practice can also provide one second tracking but that will need additional investment on server space and eventually a customer will be required to shell out five to ten times extra.' Transworld has dealt with this aspect by putting the processing ability in the device itself. So instead of an 8 bit microcontroller, Transworld has gone in for a 32 bit microprocessor.

Because of the processing ability of the

Pune based Transworld Compressor

Technologies Limited comes across as a different service provider in the telematics arena. While any telematics player will evince excitement at the prospect of supplying its systems for BRT projects, Transworld distances itself from the same. It feels that there is enough business for it to keep growing and scale its turnover from last fiscal's Rs 17 crore to Rs 100 crore over the next three years. It is also quite confident that it will be able to scale its installed base from the existing 3,500 units to 1,00,000 units in that same time frame.

The reason for this optimism is the versatility of its products across a wide range of applications. With the same product, the company can track vehicles at Amsterdam's Schiphol Airport, or even furnish details about the water level in some remotely situated dam.

What makes Transworld so much versatile is its capability to track a vehicle every second as against the conventional practice of tracking a vehicle every 10 second, 30 seconds or a minute. Similar to a black box found in an aeroplane, Transworld's Digital Tachograph is capable of offering second by second analyses which can be useful to ascertain the cause of accidents.

According to Vikram Puri, MD, Transworld Compressor Technologies Limited 'An accident can occur in the blink of an eye. And if you are not tracking a vehicle every second, there are chances that you might miss out on information

about those precious seconds which could be extremely important in ascertaining the cause of accidents.' Apart from this, the tachograph also offers other information like time of journey, distance travelled, acceleration and braking.

The Mobile-Eye is another offering from Transworld's stable. The device offers a number of solutions including that provided by a digital tachograph. Transworld has developed a smart card for storing information about drivers. One can access driver information by slotting the

Mobile Eye has been designed in a manner that allows it to be easily wired with a host of sensors.

device, only the required information is passed forward. As the filtered information is very less, there is no need for a dedicated server. Says Puri ' If the fleet operators wants to know how many times has the driver violated speed limits, only the instances when the speed limit was violated is picked up out of the entire record and passed onto the server.' A customer can check the processed information either on his own or through Transworld's server. Another advantage which results from sending only the processed data to the server is that one gets can offer wide range of information at the same time. 'When you have each and every detail loaded onto the server, the operator has to compromise on the information that he can provide. But if you tell me that I want this type of tracking, then it takes me only

couple of hours to make a change' claims Puri.

Route planning

Both the Digital Tachograph and Mobile Eye feature the same configuration except the fact that later also comes in GSM-enabled real time tracking version. This unique configuration of the device also offers Transworld the liberty to upload data in the device from a remote destination. The company's Journey Risk Management solution leverages the same advantage. This solution is a joint effort of Castrol BP, Transworld and the Institute of Road, Traffic and Environment (IRTE). As apart of this solution, the entire journey is divided into different speed zones. The zone data comes as a GIS mapped file. The mapping of the route has been done by IRTE.

Transworld's operating system is linked
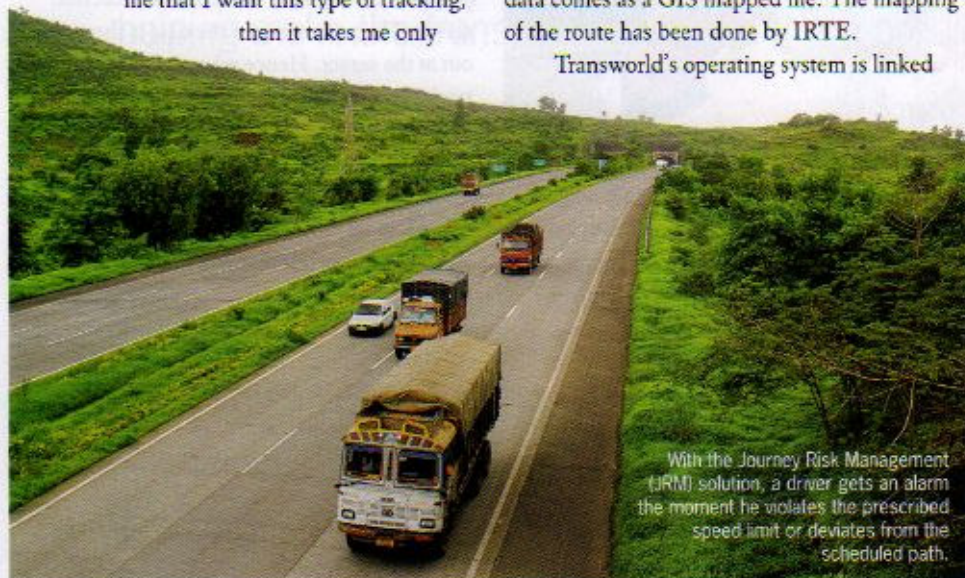
With the Journey Risk Management (JRM) solution, a driver gets an alarm the moment he violates the prescribed speed limit or deviates from the scheduled path.

JRM is a joint initiative of Castrol, Transworld and the IRTE. Almost 50 percent of the lube maker's 1,100 trucks use this innovative solution.

With the fuel sensors, Agility can expect to save 100 litre of fuel that it loses per truck on account of pilferage

with the ERP, SAP or other systems used by the customer. Once the information about the vehicle is loaded in the customer's system, the same gets updated in Transworld's system. Then depending upon the route, the relevant information showing the speed limit and the route to be followed is updated in the basic vehicle tracking unit. The solution also involves a special colour coded device with an in-built

alarm. This device is wired with the basic tracking unit.

Whenever a driver violates the prescribed speed limit in a particular zone or deviates 00 – 1,000 meters from the scheduled path, e receives an alarm. Deviation of 200 or 300 neters is not considered as violation as a driver night need to take a diversion. The entire route s uploaded every time a vehicle is loaded with a new consignment.

Transworld is working with Castrol for the last four years. Castrol has a fleet of around 1,100 vehicles and half of those vehicles have been fitted with the device.

These trucks make 10,000 trips per month covering 70 lakh kilometres. It is on this base that we can claim that the number of accidents has reduced dramatically' says Puri.

Transworld's basic tracking units have thus been designed to be easily wired with a number of sensors. Prominent amongst them are fuel sensors which can display the actual fuel consumed by the engine up to an accuracy of 25 ml. 'We will be able to inform drivers on the best possible mileage on a particular route. Hence one will be able to decide if it makes sense for him to take 100 km detour and save a certain

Tyre sensors maintain a continuous check on tyre pressure and temperature. Any possibility of tyre failure can be identified even in the middle of a journey.

amount of fuel' adds Puri. Transworld is set to pilot this concept for four weeks on a couple of vehicles belonging to US-based logistics company, Agility PWC. There estimate is that they lose 100 litre a month for each truck because of pilferages. With our system they would be able to accurately estimate fuel consumption, determine the extent of pilferages and then take corrective measures,' adds Puri.

Transworld has also come out with alcohol sensors which will prevent the vehicle from starting if the driver is drunk. Meanwhile the tyre pressure and temperature sensors will report any likelihood of tyre failure. Transworld is also working on Can-Bus type of application wherein its tracking device will be able to communicate with the truck's electronic controls. This will allow the truck's electronic devices to function in sync with inputs given by the sensors' explains Puri. Later this year, Transworld plans to unveil similar devices for construction and material handling equipment like excavators and cranes.

Defence applications
Transworld has also developed Battlefield Online Tracking solution (BOLT) for the

Indian army. The solution will have tracking systems for tanks in the battlefield. The units will have a combination of communication capabilities like encrypted or local radio apart from GPRS and GSM. The solution will enable a concerned person to see all his assets and it will be possible to zero-in on a particular tank in

the battle field right from the army head quarter. The solution has already been successfully tested at the Armoured Corps Centre and School, at Ahmednagar. The northern command has also started implementing this on their convoys for security and safety against terrorist attacks.

Transworld's Battlefield Online Tracking (BOLT) solution will help a commanding officer to marshal his resources in a highly organised manner.

Further down the line, Transworld will roll out its vehicle maintenance module. This solution will offer maintenance related information like how long did a particular tyre last, or the impact of using X brand of oil on mileage.

Transworld is also working on a unique monetising opportunity - location based advertising. The company is developing a system which will be connected to a television inside a bus and whenever that bus approaches a particular location like a food mall or a place of public interest, advertisements local and relevant to that area will be flashed on the television. 'We have bid for a couple of tenders in the north. Negotiations are also on with the PMPML of Pune for the same purpose,' Puri reveals.

Healthy order book

With such an extensive list of offerings in its portfolio, Puri is quite upbeat about the future. The company expects the total telematics market in India to jump to around 75,000 units this year and touch 3,00,000 units in the next three years. Against this backdrop, Transworld had an order backlog of 13,000 units as of June 2008. As a result, it is ramping up production from around 200 units a month last year to 2,000 units a month now.

Apart from Castrol, Transworld has received an order of 3,800 units from OM Logistics Limited, one of the leading logistics players in the country. Deliveries at 200 -300 units per month will be done in phases. First Flight,

Door sensors will provide information about the place, time and duration at which the door of the container was opened during the a trip.

the courier company, has also placed another order for its fleet of 480 vehicles. 'The system for First Flight is designed to counter incidents of pilferages. The units will consist of a door sensor which will provide information like where and when the door was opened and how long was it open,' says Puri.

The digital tachograph with a manual download costs Rs 7,500 while the one with

the Wi-Fi download option costs Rs 10,000. For the Mobile Eye, the price package is pretty interesting. A single unit costs Rs 18,000. But the price drops to Rs 14,000 and Rs 10,000 for orders of hundred and thousand plus units respectively. The monthly service charge for customers ranges from Rs 300–500.

The company also offers leasing options to customers for customers who place an order of at least 1,000 units. 'They have to commit to use our products for three years. The lease charges amount to Rs 999 per unit every month,' clarifies Puri.

Transworld is also in talks with financial institutions like ICICI to device some packages for customers. 'This segment is very big but the credit risk is very high and we are too small to take that risk. So we are looking for somebody who will carry that risk with us' states Puri.

Within next two years, the company plans to deliver a complete package of fuel sensing, tyre monitoring, JRM, alcohol sensors, door and lid sensors at Rs 10,000. 'Offering such a package coupled with our Mobile Eye could offer customers all the benefits at Rs 25,000 — half the price that would need to be shelled out, had they opted for individual sensors,' says Puri.

Transworld is surely watching where it is going!!

Location based advertising could be the next big thing. Transworld has already received interest from the likes of Pune's bus operator PMPML