

# Tracking Vehicles

Vehicle tracking systems are increasingly being deployed by transporters to cut costs and ensure faster movement of goods, notes **Dipta Joshi.**

**T**he synergy between information technology and telecommunications has spawned a whole new generation of solutions in different sectors, enabling businesses to enhance efficiencies, dramatically cut costs and speed deliveries.

One such technological spin-off is the provision of real time information about the movement of vehicles, which is of crucial importance in the logistics and transportation industries. All the more so in a country like India, where trucks and other commercial vehicles traverse across remote parts of the country, or enter 'blind spots,' in terms of the normal telecommunications networks.

But once a little black box is installed within vehicles, Indian logistics and fleet operators can stay updated by the minute. Vehicle tracking systems (VTS) are finding many takers in India, including truck operators, car rental companies, school bus operators and even individual users.

The small VTS device (the size of a mobile phone) uses Global Positioning System (GPS) and Global Pocket Radio System (GPRS) that help operators digitally track their vehicles at the click of a mouse. Newer and easier-to-handle technology and infrastructure, coupled with a growing mobile workforce, is making the relatively new concept of vehicle tracking popular in India. Tata Motors, a leading domestic

automaker, has installed the system in its Tata Novus range of heavy commercial vehicles used at construction sites.

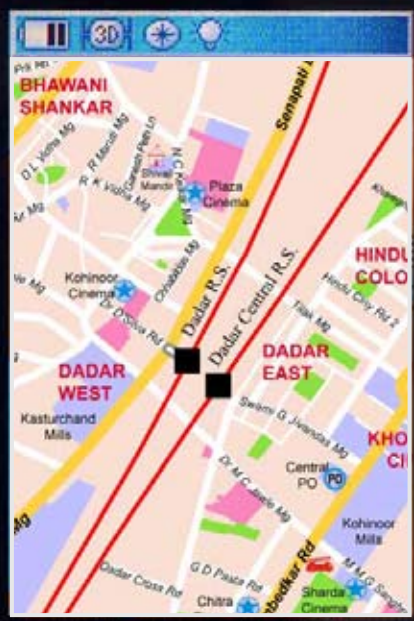
Logistics companies such as Blue Dart and Gati use the system to track the status of consignments they need to deliver. Car rental firms such as Budget Rent A Car too are using the system to maintain schedules and track vehicles.

"India is a large country and it can take days for a truck to travel from one end to the other," says Rohan Verma, director of MapmyIndia, which provides digital and online maps, along with GPS tracking software that service providers use to provide complete tracking solutions to customers. "A tracking system can ensure safety of goods as well as drivers, provide timely assistance in case of breakdown or an emergency and make the system efficient," he adds.

Tracking installations are no longer considered an added extravagant accessory. "It is more a management tool that allows you to regulate the driver's behaviour," points out Ross O'Donnell, ceo, Budget Rent A Car, India. The auto rental and leasing company follows a policy where tracking devices are installed once a car is purchased. It has such devices in all 250 cars that it operates in India.

GPS, which operates through a network of 28 American satellites, is an enabling technology that has tremendous

GPS



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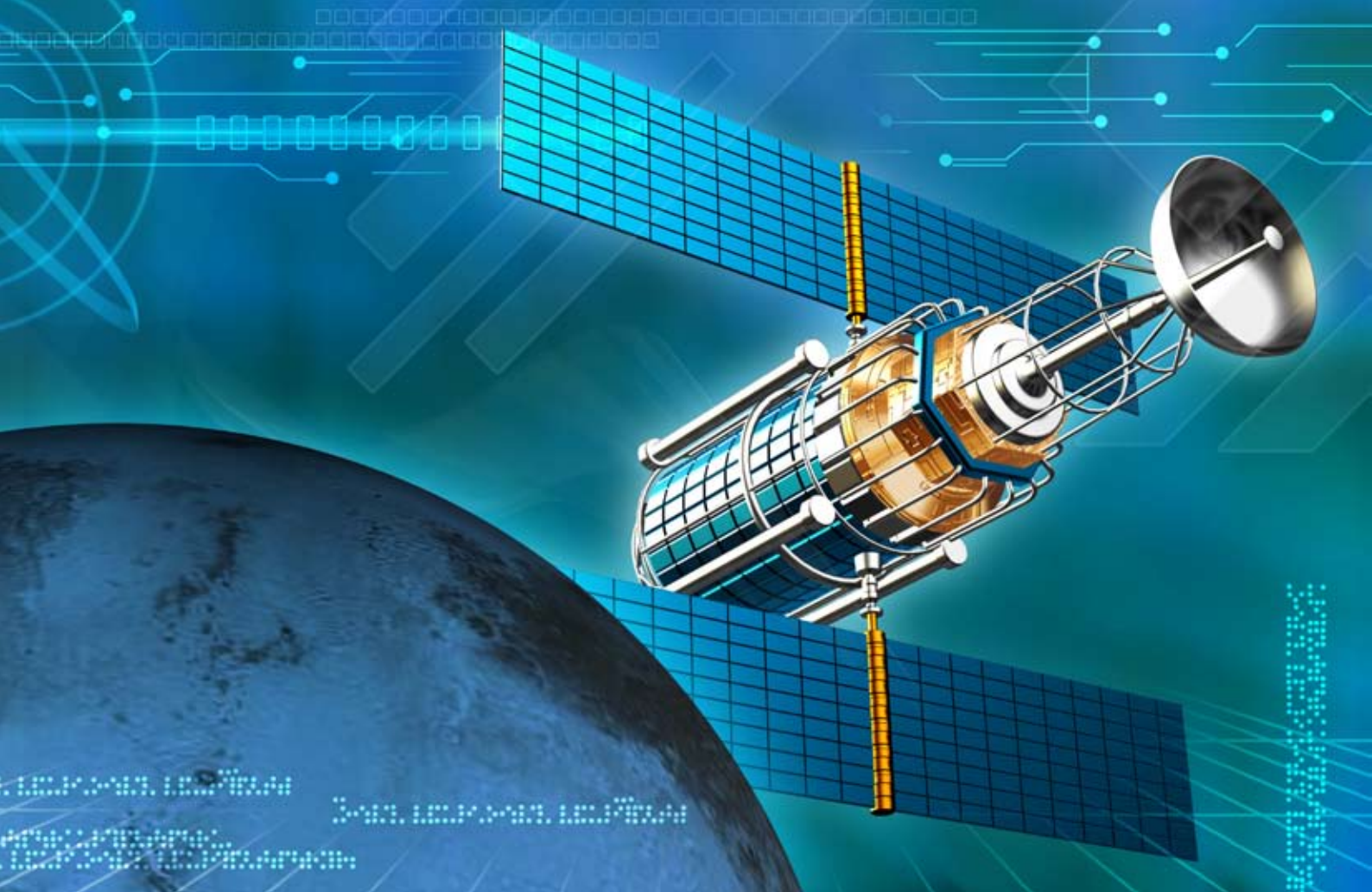
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potential in air traffic management, transportation and other personal positioning applications. The Indian Space Research Organisation (ISRO) is already working on the US\$335 million Indian Regional Navigation Satellite System (IRNSS), which will be an alternative to the GPS and help Indian transporters as well. The project is expected to be in place by 2012.

The technology can also be used to ensure passenger safety. The Andhra Pradesh State Road Transport Corporation (APSRTC) has drawn up plans to use VTS in its day-to-day functioning. The Union Urban Development Ministry too plans to regulate, coordinate and control interstate traffic within the National Capital Region (NCR) between the states of Delhi, Uttar Pradesh, Haryana and Rajasthan, by deploying such a system.

It is estimated that delays from congestion on highways, roads and transit systems throughout India result in productivity losses worth millions of dollars annually. In addition, over-speeding

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vehicles cause property damage, personal injuries and inefficient fuel consumption. A VTS eliminates, or at least significantly reduces, the problems associated with

the routing and timing of vehicles in a large fleet.

GPS tracking devices receive signals from satellites and calculate their position on earth on a continuous basis. This data is sent to a server using a GPRS connection made by an integrated Global System for Mobile communications (or GSM, which could be any cellular service that the tracking service provider has tied up with) and GPRS modem. Customers are given access to websites where they can keep track of the data that has been collated.

In case the customer has not opted for real time tracking services, the device acts as a data logger recording the vehicle position (through GPS location coordinates), maximum speed, travel time, battery status and fuel tank capacity. With a two-way communication between the driver and the central server possible, timely intervention can be sought in case of a breakdown or an accident.

Several advanced tracking systems with graphic display of maps and direc-

tions are available in India. But systems deployed for fleet management need to be simple to ensure easy accessibility to truck drivers. "While designing for Tata Motors, we made a conscious decision to shift our thinking from designing of a tracking device to designing a travel mate," explains Nishma Pandit, director, Ticket Design, which helped package the Novus tracking device. "This helped us understand the needs of a difficult and diverse user better," adds Pandit.

Fleet operators and logistics firms use the information about the position of vehicles in scheduling, allowing them to commit to realistic delivery timelines. Gati, with a fleet of over 4,000 vehicles and plying close to 325,000 km every day across the country, is one of the top players in the logistics industry.

Currently, the company has installed VTS in just 100 vehicles, but aims to cover its entire fleet in due course. Says Tapash Nagaray, head, service quality, Gati: "The flow of information, for 90 per cent

of the time a shipment is travelling in a truck, is a cumbersome manual process. Having VTS in such a situation reduces the response time as well as the cost of communication."

Besides efficiency, tracking systems also ensure security. "The inbuilt security feature can actually cut off the fuel to the engine from a remote distance in case the owner notices his vehicle moving in a direction other than the one it is supposed to move," explains tracking solutions provider Bhaskar Gandham of Airsys Safety Solutions. It is also an efficient tool to check theft of fuel. "Firms that are not already using the facility have no idea how much mismanagement can take place," adds O. Donnell of Budget Rent A Car.

One of the biggest benefits of VTS is transparency. As Nagaray notes: "Once the Carriage by Road Act 2007 is enforced, providing information about the whereabouts of shipments at any given point of time will be a legal obligation." The act provides for regulation of carriers

and their commitment to customers, which he feels is best achieved by offering complete transparency regarding the movement of goods.

Installation and product charges for a vehicle tracking device are a minimal one time payment. However, the value addition lies in the services provided by companies such as data collation and Web support. With transportation and logistics being a significant proportion of operating costs, companies are willing to accept savings on account of the VTS. According to a spokesperson of Tata Motors, a VTS works out to be economical for high-value commodities. As with all electronics systems, costs go down with time.

In a growing economy, the importance of logistics cannot be over emphasised. With tracking systems likely to become more economical and technologically advanced, the Indian logistics and transportation industry will increasingly deploy these systems, to minimise inefficiencies and save costs. 🌱

## ENSURING TRANSPARENCY

Demand for vehicle tracking systems (VTS) in India is expected to soar over the coming years with growing awareness, especially in the corporate sector, about the need to monitor the movement of vehicles carrying both, personnel and material.

Frost & Sullivan, a business and research consulting firm, estimates that the VTS segment of the telematics market in India is expected to earn revenues of nearly US\$80 million by 2011.

The navigations systems market, though still in its infancy, is expected to take off now, notes a Frost & Sullivan analyst. The original equipment (OE) market is set to play a key role in this development.

Substantial support for telematics systems could also come from the growing market for premium and luxury cars in India, he adds.

Besides the rising sales of commercial vehicles, the increasing demand from call centres and taxi operators is helping

the telematics market gain greater momentum. With growing demand for telematics products, system suppliers and GPS vendors are hopeful of a



reduction in the price of GPS chips and other allied components, ultimately boosting sales.

India has a road network of about 3.3 million km, the second-largest in the world. National highways constitute a mere 2 per cent of the total road network, but billions of dollars are being invested in upgrading the existing national highway network and building new ones. This will boost prospects for the road transportation sector, increasing the demand for VTS.

The Indian government has also come out with the Carriage by Road Act 2007 to cater to the needs of modern-day trade and transport by road. The new legislation aims to make the transport system transparent and modernise the procedures of the transportation trade through registration of a common carrier.

Telematics systems and VTS will ensure transparency in business and provide the necessary evidence in case of litigation.