



The material handling scene in India has started to mirror that in more developed markets due to the use of equipment like forklifts (above)

The GPRS helps both TCI and customers to keep tabs on the precise location of the truck and its cargo (bottom left)

The Mahindra Shaan tractor lugs quite a load (bottom right)

truck where the sides can be totally opened and the stock loaded. In case of certain plants having docks located in less space, the company has developed a 'Side Open-Sliding Door' body design as well. Lastly, the company has also designed a 'Gullwing' door body style for usage in cases where the driver himself has to unload the truck. Each design has its benefits and helps reduce time. Apart from that, TCI has also developed a unique load trailer for a tractor that does duty at the Bajaj plant in Pantnagar, Uttaranchal (read facing story).

In terms of outbound logistics, TCI Supply Chain Solutions has developed a variety of trucks that range from refrigerated vehicles that come with an all imported unit, which permit the transport of fruit, pharma and vegetables. The company also has trailers to handle over dimensional cargo (ODC), special containers to take care of vehicles brought in through the CBU route. In this case the trucks carry only two vehicles at a time.



Coming back to the automobile space, there are rigid double decker trailers for four-wheelers and two-wheelers in addition to the TCI patented triple decker design for the transport of two-wheelers.

TCI started transportation of two-wheelers three years ago. Earlier these vehicles were transported on a double deck truck with a capacity of transporting 55 bikes. The company then decided to use 25-45 feet long trailers which could carry 85 vehicles. That was not all. The same trailers could then be used to transport cars on the return trip. And then, TCI designed a special triple deck trailer that eventually allowed it to transport 110 bikes instead of 55 and also reduced its cost of transport by 40 percent. What is more, TCI has also developed unique carriages

where spare parts can be stored and transported along with the main cargo at no extra cost. All vehicles come fitted with a GPRS in order to keep tabs on their movements, eventually helping both TCI and the client to tailor their schedules.

### Warehousing

TCI plans to invest almost Rs 150 crore in building warehouses. Customers save anywhere between 1-10 percent in costs when they outsource the warehousing function. In line with this thought, TCI currently has 7 million sq feet of warehousing space through its network of over 1,100 branches across the country. Through the planned investments, it is in the process of setting up warehouses spread over 2-2.5 lakh sq ft floor area. In addition to these facilities TCI will also rent/lease more than 2-3 million sq. ft of warehouse space in the next 2-3 years

The new warehouses will be multi customer facilities, featuring multi-user warehouse racking systems, pallets, Material Handling Equipment (MHE), temperature controlled environs, backed by integrated IT systems. 'We also provide reverse logistics to a number of our customers. We handle the process of sending back defective engines; semi knocked down machines and completely knocked down units,' explains Sethi.

The initial investments in manpower and specialty tools may be high, but the pay off will come for TCI when more and more clients actually start to depend on the system for their daily operations.



**T**he much talked about Bajaj factory located in Pantnagar is a logistics dream. This aspect is attributed to the fact that TCI Supply Chain Solutions has been part of the project right since the design stage.

The SIDCUL SEZ situated on the Pantnagar road en route to Nainital from Rudrapur in Uttranchal is home to the Bajaj factory as well as 16 vendors amongst other companies that have set up shop in the area. Bajaj was keen on having its vendor base close by and at present approximately 80-85 percent of total component needs is met by these vendors located in the nearby cluster. The remaining material either comes from Bajaj's plant in Waluj or other suppliers located elsewhere in the country. The bottomline is that apart Bajaj wanted the factory to be free of inventory and the production lines for both engine and body to run on a JIT (Just in Time) format.

The docks are of the same height as the door of the truck. Therefore, not too much time and effort is needed to load and unload cargo (top)

Components collected after the milk runs to various supplier facilities, being unloaded at the Bajaj Auto plant (below right)

Parts arranged in the bin moulds ready to be sent to Bajaj Auto (below left)



TCI Supply Chain Solutions was recruited for this purpose, and discussions began even before the first brick was laid for the plant. Today the system works flawlessly and Bajaj is able to churn out a huge number of motorcycles each day utilising the least possible workforce as well as running an extremely efficient production line.

TCI Supply Chain Solutions started with the design of the loading and unloading docks at both the plant as well as the cross dock warehouse located nearby. Simple but extremely essential details were factored in the process. It was requested that the level of the loading docks be set at 1 metre. This permits most trucks to just back up and be at the right level for an employee to directly unload from the truck. Special ramps have been designed to handle trucks that are too high. Anil Kumar Agarwal, Dy. General Manager, TCI Supply Chain Solutions says, 'It may seem

like a small gesture to have the docks at the same height, but by doing so, it actually results in a lot of time being saved as the trucks can be loaded or unloaded faster.'

The Supply Chain at Bajaj Auto begins with a work order being sent out for the day. This is directed by Bajaj itself, where suppliers are informed on the number of parts required in each 'milk run'. TCI is also kept in the loop since it has to send out special trucks to various suppliers on 'milk runs'. A set amount of time is allocated to each vendor to have the stock ready, before it is loaded onto the truck. After completing its round, the truck brings stocks to the cross dock warehouse, where the parts are categorised, washed and then placed in special moulded bins. The cross dock warehouse requires material to be supplied every two hours from the vendors.


In addition to these local parts, the material from the Waluj plant





the outbound logistics at the Bajaj facility. Thanks to the smooth flow of components to the plant, Bajaj is able to roll out a bike every 28 seconds. Once off the production line, a TCI hired employee takes the bike to the storage area from where it will finally be loaded onto specially designed container trucks for transport to all corners of the country.

The outbound trucks are mainly double decker models but there are also patent TCI designed triple decker models that do duty on this route. These trucks are built specifically to cater to automobile clients and there are large lifts that allow for quick and easy loading of the vehicles with minimum damage. Each truck also comes with a unique compartment that allows for the storage of spare parts which also have to reach the dealers. Thanks to this unique design, Bajaj Auto is able to transport its spare parts at no extra cost as the truck is already carrying bikes. These trucks are also fitted with GPRS devices.

Bajaj Auto is already thinking of scaling up its production cycles and this means that TCI Supply Chain Solutions will have to also increase its cycles correspondingly. Not easy, but then if your customer is among the foremost names in the auto industry, it is inevitable to go the extra mile. 

Trucks carrying bikes to the dealers come fitted with a special area for spare parts too (top)

Bajaj's Pantnagar plant looks quite uncluttered on account of all the back-end efforts from TCI (below)

also finds its way to the cross dock and consequently onto the molded bins. Incidentally the trucks that bring the material from Waluj are also TCI vehicles that are fitted with GPRS devices so that Bajaj Auto can know about their whereabouts at any given moment. TCI also benefits from being able to monitor the movement of materials and plan its fleet for future deliveries. It is the first company in India to introduce GPRS as a truck tracking method in the field of logistics.

Santosh K Mishra, DGM-Logistics, TCI Supply Chain Solutions adds, "The moulded bins are of two types. One is for the engine parts, and the other is for the body. Each part has a mould that corresponds to the part design. Once placed into the mould, the bins are stacked and ready for delivery on line. There is also a third supply that runs directly from vendor to the plant; this is the 'delivery on line' which comprises of the chassis and electricals."

Bajaj has stipulated a time of 1 hour for each delivery from the cross dock warehouse. For this purpose, TCI has specially designed trucks that have rails fitted inside them to make loading and unloading of the mould bins an easy task. The bins are loaded at the warehouse and carted across to the plant where they are delivered directly onto the 2 production lines. Also part of the delivery service is a unique tractor trailer that runs between the warehouse and the plant. Two trailers and one tractor have been

employed for the purpose. First the tractor delivers a full container to the plant and leaves it there, while it takes the previously left empty container back to the warehouse to be filled. This process works in a flowing manner and utilises the least amount of man power as well as vehicles.

TCI Supply Chain Solutions also provides Bajaj Auto with all the man power at the warehouse as well as at the loading and unloading docks. These personnel are all duly trained by TCI.

Once the material has reached the production line, the process of inbound logistics is complete. What remains is the outbound logistics. TCI Supply Chain Solutions handles approximately 90 percent of

