



Indian Railways boasts a fleet of 883 track maintenance machines and has plans to procure additional machines over the next three years.

RAMESH PATHANIA/MINT

## Mechanization key to achieving improved quality, productivity

Chandrajit Banerjee  
feedback@livemint.com

Indian Railways is akin to a giant, complex conglomerate with diverse stakeholders, facing multiple challenges of servicing the growing demand of a nation whose infrastructure is expanding by leaps and bounds. The largest rail network in the world, Indian Railways has both the advantage of being India's most prolific mode of cross-country travel, and the disadvantage of being less nimble-footed, given its massive footprint. Besides, much of it is still a legacy of the British Raj.

The railways is not only about moving people and goods, it ferries people from the hinterlands to the bustling cities and suburbs to help them earn their livelihood. Managing a transportation system, which can efficiently and affordably meet the socioeconomic needs of India's vast population, has proved to be a major challenge.

The Indian Railways' network, the fourth largest global rail system after the US, China and Russia, has a route network spread over 67,368km and is managed as a single enterprise by the government. It runs 12,617 passenger trains and 7,421 freight trains daily, carrying 23 million travellers and 3 million tonnes of freight. Making this system chug along is capital-intensive and effort-consuming.

One way to enhance the operations of the railways is mechanization, where manual practices are replaced with technology to improve efficiencies and delivery of services and safety. As a customer-facing service, this is easier said than done

**Mechanization will lead to reduced demand for manual interventions**

for the railways, as such tectonic shifts must be implemented on the job, without major disruptions to the system. Put simply, the railways, unlike a factory plant, cannot be put "under maintenance" for long hauls.

Globally, railways mechanization has driven the economies of Japan and European nations. The UK rail infrastructure industry has gone

through significant changes in the use of mechanized technology in the last 50 years. It is using innovative techniques to add value and promoting customer service. High levels of mechanization in track maintenance has been introduced by the Swiss Federal Railways, which has helped cut down maintenance time and led to further adoption of efficient, standardized and fast installation methods. Also, noteworthy is Russia's investment of 12.9 billion roubles last year to update the fleet of track equipment.

Over the last few years, Indian Railways has taken some concrete steps to embrace mechanization in its operations. This will ensure faster project execution, improved quality of services, more efficiency and accuracy in operations, and also improve the working conditions of railway staff.

Some noteworthy steps include mechanized electrification for speedy execution in limited traffic block periods, complete mechanization of inspections, and conversion of manual monitoring, relaying and maintenance of railway tracks to a fully-mechanized maintenance regime by 2020 on trunk routes. And this is no mean job.

Indian Railways boasts a fleet of 883 track maintenance machines and has plans to procure additional machines over the next three years. At present, mechanized cleaning is done at over 520 stations.

More than 70% linen is washed in mechanized laundries set up inside railway premises, while the rest are washed by contracted service providers. The recently launched Train 18, a first-of-its-kind fully indigenously developed and manufactured unit, has been engineered to ply on mechanized platforms, which requires optimal matches of loads and tracks coupled with speed.

Chandrajit Banerjee is director general of industry lobby group Confederation of Indian Industry.