

## LOW-COST TECHNOLOGY

*Towards adoption of new, cost-saving technology*

While new, innovative techniques and technologies are available and have been proven to reduce costs and enhance the quality of the surface, Indian roads have at best experimented with them. Adoption has been low. **Alon Globus** says a centralised body is needed to regulate and monitor large-scale adoption of improved technology in roads.

and efficient use of new technologies, use of marginal materials and use of waste materials. The workshop also purported to develop a think tank on how these innovative technologies can be recommended, adopted and implemented at the ministry level for developing better sustainable roads.


On the same lines, PMGSY awarded a pilot sample project of 200 m to our company for trial and testing of our soil stabiliser. A 200mm thick layer of murum was treated using soil stabilisation with Zym-Tec™. The improvement in the strength of soil subsea was significant and reached high CBR value.

**Adoption at policy stage**

The National Highways Authority of India (NHAI) has awarded 12,034 km of road projects in the five years ending March 2011, giving a boost to the construction equipment sector. Transportation of heavy equipment, in turn, calls for substantial improvements to India's roads, and the policymakers and agencies have been voluntarily adopting improved and innovative technologies.

With growing rural road network of the country and with ambitious rural road development plans, the role of research and development (R&D) in new technologies is invaluable. The main thrust of R&D in the roads sector is to build a sustainable and environment-friendly road infrastructure for low-volume rural roads.

The road sector agency Indian Roads Congress (IRC) has accredited various techniques and new material technologies in India for two years on trial basis. The Government of India has also taken a decision to try new overseas technologies that are proven for minimum five years with IRC. Road sector agencies such as IRC, the Union Ministry of Road Transportation



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Considering the number of conferences, exhibitions and workshops that were held last year, there appears to be a trend towards the adoption of process innovations and new technology. The National Rural Roads Development Agency (NRRDA) recently organised a workshop on non-conventional materials and technologies to create awareness among field engineers, to bridge the gap between laboratory and the field construction techniques and to demonstrate the use of locally available materials, new materials and waste materials. i-Tec-India was invited along with other companies like India Polyroads, Zydex, TechFab India, Hindustan Prefab, and others, to present their technologies. The directors on the board were also keen in awarding pilot projects to a few companies to verify the credibility of the results. These pilot projects were targeted to economic



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and Highways (MORTH) and Construction Industry Development Council (CIDC) have also started promoting and adopting foreign technologies by organising and participating in conferences and exhibitions. Similarly, the Prime Minister's Grameen Sadak Yojana (PMGSY) is also testing new technologies for speedy, cost effective and quality efficient roads in the rural regions.

### Need for upgrade and adoption

In order to improve productivity, product quality and working efficiency, various agencies in the road sector need to constantly upgrade their technological competencies. The Government of India should propose a broad, centralised scheme for technology upgradation and R&D facilities for modernisation in the road industry. Such a scheme may help the players in tracking global trends in equipment and process technologies, with specific objectives of cost control, enhanced productivity, energy efficiency, eco-friendliness, product quality, operating flexibility and efficiency.


More field engineers should be exposed to the new technologies. This will instil confidence and adoption of these technologies would become possible. The successful demo of these projects also would highlight the cost effectiveness and conservation of natural resources.

Many innovative and good practices are being followed in different states. In the past dec-

ade, new innovative Indian technologies have evolved as various foreign technologies are knocking at India's door for developing urban and rural roads to international standards. In conjunction with the establishment of a centralised body like the PMGSY, established to enable better planning and effective investments in rural areas, a centralised body should issue operational guidelines from time to time, mainly from the upgradation of technologies and their results and performance at district and state level for better planning and quality monitoring.

A centralised body like PMGSY should monitor, regulate and recommend new technologies to state level for superior quality of smooth, dispute free and timely road construction. It has become mandatory to expose local engineers, PWD and other agencies to the new technologies to enable better road condition in India.

### High initial cost, low maintenance

While better quality roads are the need of the hour in both rural and urban areas, we need to ascertain the cost implications of using new technologies vis-à-vis conventional methods of road construction. In reality, using innovative techniques ensures huge savings in both the construction and maintenance of roads. 



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