

CHINA'S GREAT LEAP IN HIGH-SPEED RAILWAY DEVELOPMENT

YU Hong & YANG Mu

EAI Background Brief No. 541

Date of Publication: 8 July 2010

Executive Summary

1. China's high-speed railway route length increased to 3,753 km in 2009 from merely 147 km in 1998, making it the world's largest high-speed rail network.
2. The fast pace of industrialization and economic development in China has contributed to the rapid expansion of its high-speed railway over the past few years.
3. China's vast geographical area and its population of 1.3 billion have naturally created a high demand for freight and passenger travel. Developing an efficient and reliable system of railway transportation based on a high-speed railway network is crucial to China.
4. The construction of high-speed railway represents China's scale of technological progress.
5. China has imported and licensed a variety of high-speed rail components, technology and designs from Germany, France and Japan during the past 10 years. The domestic railway vehicle factories are producing high-speed rail using technology acquired through technology transfer agreements.
6. China's railway firms have adapted and incorporated these imported foreign technologies, and then made further improvements to them. From design and construction through to management, China is now seeking to become the world's leader in the high-speed railway sector.
7. The government's stimulus package is geared towards the development of this sector. The railway sector is the biggest beneficiary of this huge stimulus package aimed at increasing domestic consumption and boosting economic growth.

8. The rapid development of high-speed railway is anticipated to gradually correct the uneven industrial distribution and economic imbalance among the eastern, central and western regions. The operational high-speed railway between Wuhan and Guangzhou has cut travel time to only three hours.
9. China's high-speed railway sector has also adopted the "going out" strategy to strengthen its global competitiveness. China is eager to play an important role in high-speed rail construction in the U.S. by transferring technology and equipment. It has already signed cooperation and development agreements on high-speed rail with the State of California.
10. The appeal of high-speed railway lies in its environmental-friendliness. A substantial reduction of greenhouse gas (GHG) output can be achieved through the development of high-speed railways, for both freight and passenger traffic.
11. Low efficiency and high operational costs are a pressing issue. In terms of employee productivity comparisons, China is lagging behind most of the developed nations.
12. In the past, the safety record of China's railway sector has been far from satisfactory. The fast expansion of high-speed railway has raised concern over China's technological capability of operating such a huge rail network safely.