



GROUPINGS OF REGIONAL CITIES IN THE RAIL SECTOR

- Category 1** – A large market with clear aims and objectives
- Category 2** – A large market with growing aims and objectives
- Category 3** – An emerging market with growing aims and objectives

Category 1			Category 2		Category 3		
Changchun	Dalian	Tianjin	Harbin	Shenyang	Baotou	Ningbo	Weihai
Changsha	Nanjing	Wuhan	Hefei	Tangshan	Changzhou	Ordos	Wenzhou
Chengdu	Qingdao	Zhengzhou	Jinan	Xi'an	Dongguan	Quanzhou	Wuxi
					Dongying	Shaoxing	Xiamen
					Foshan	Shijiazhuang	Yantai
					Hangzhou	Suzhou	Zibo
					Nantong	Weifang	

China is one of the world's fastest-growing rail markets and railway transport is of great importance to its economic success.

Rail is paramount to China's performance in trade and commerce, being the mode of transport for 56 per cent of all the country's freight. Some 3.7 billion tonnes of goods were delivered by rail in 2010, a 9.3 per cent increase on 2009. Rail also accounts for a third of China's total passenger transport, with 1.7 billion passengers using its vast railway network in 2010, a 10 per cent increase on 2009. Over the 40-day period of Chinese New Year in 2011, 5.7 million passengers travelled on the rail network each day.

In recent years, the Chinese government has invested heavily in railway infrastructure. Actual accumulative Fixed Asset Investment (FAI) in rail for 2010 reached RMB834 billion, of which RMB709 billion was

directed to infrastructure (an increase of 19 per cent on 2009.) The Ministry of Rail recently announced that China's railway sector will continue to receive high levels of investment, with a further RMB600 billion set aside for 2011.

By 2012, 26,000km of new railway will be completed and in operation. Over 9,000km will be designated passenger lines.

China is also one of the world's fastest-growing developers of urban rail (including metro and light-rail transit). Ten Chinese cities currently have combinations of urban rail, with a total length of nearly 900km. The State Council has approved new urban rail construction and expansion in 25 cities to a total length of 2,500km by 2015. The total length of light-rail transit alone is expected to reach 5,000km by 2020.

China's railway planning and regulatory framework should be viewed as operating in two tiers. The main lines connecting cities and provinces are primarily under the management of the Ministry of Railways and its subordinate regional bureaux. Each regional bureau (or group of companies) is responsible for infrastructure investment, the development and purchase of rail equipment and the operation of services under the authority of the central Ministry. The second tier are the local railway networks developed and managed by regional governments (provincial and municipal), and these are typically metro and light-rail transfer systems. China Railway Group Ltd (CRG) is the world's second-largest infrastructure company and delivers most of China's railway infrastructure projects. Ninety five

per cent of the country's modern railway, 10 per cent of its roads and over 60 per cent of its urban light-rail projects were either built by CRG or one of its 40-plus subsidiaries. These are based in the most important regional rail transport hubs, including Beijing, Tianjin, Shanghai, Zhengzhou, Wuhan, Harbin, Shenyang, Jinan, Guangzhou, Chongqing, Chengdu, Xi'an and Lanzhou. These are also cities where the Ministry of Railways has bureaux. There are currently two major players in China's railway equipment and rolling-stock manufacturing sector. In 2000, China Railway Rolling Stock Industries was divided, generally based on geography, into two competing groups, China Northern Rail (CNR) and China Southern Rail (CSR).

CNR's subsidiaries are based in Beijing (HQ), Qiqihar, Harbin, Changchun, Shenyang, Dalian, Tangshan, Tianjin, Datong, Taiyuan and Qingdao. CSR's subsidiaries are based in Beijing (HQ), Qingdao, Shijiazhuang, Luoyang, Zhuzhou, Nanjing, Chengdu and Hong Kong. Both CNR and CSR are involved in the manufacture and development of locomotives, rolling stock, high-speed rail and light-rail transit systems. Foreign companies, such as Bombardier, Siemens and Kawasaki Heavy Industries, primarily operate in joint ventures with subsidiaries, partners and contractors to CRG (for infrastructure), CNR and CSR.

HIGH-SPEED RAIL

China's ambition to build faster railways began in the early 1990s. In 1997, the Ministry of Railways began a series of six "Speed Up" campaigns which increased the average speed of many of the country's passenger and freight lines.

However, the development of China Rail High-Speed Rail (CRH) really took off in 2003 when the State Council approved the Ministry of Railways "Medium to Long-Term Railway Network Plan" for railway expansion. This called for a 34,000km expansion of the national rail network to 120,000 km by 2020.

The total expansion, costing RMB5 trillion, includes plans to construct a 16,000km high-speed passenger rail network. There will be four north-south and four east-west main lines, and an additional 19 inter-city CRH lines with a top speed of 250-350km/h.

The Beijing-Shanghai High Speed Railway is a landmark project in CRH history. Built over just 31 months between 2008 and 2011, the

1,318km line is currently China's single most expensive project, costing RMB221 billion. The railway is expected to open in July 2011, operating at two speeds: 200km/h and 300 km/h. At the higher speed, the railway will reduce the journey time between China's political and economic capitals to less than five hours. It is worth noting that the operating speeds have been reduced and ticket prices have been increased from the original plans. The reason for this is believed to reflect the impact that city-city CRH has on air traffic. Since CRH has become available, air passenger numbers have been impacted on the Chengdu-Chongqing and Wuhan-Nanjing routes.

Given that it already has the world's largest high-speed rail network, China is well on track to realise its ambitions in this area. It expects to complete a network of 13,000km by the end of 2011, with another 12 lines just built. By 2012, the new network will connect most major cities in eastern and central

China, as well as strategic cities in western regions, including Kunming, Chongqing, Chengdu and Xi'an. The network is expected to continue to grow by as much as threefold in the next 10-20 years.

The rapid development of the CRH network will bring a number of long-term benefits, despite the high cost of construction. The new CRH passenger lines will vastly increase China's capacity of rail freight; provide an economic and energy-efficient alternative to air and road travel; greatly integrate most of the country's medium and large-sized urban centres; and further enhance consumer markets and trade across its regions. For instance, most of the major cities in China, including Beijing, Shanghai, Guangzhou, Shenzhen, Chongqing and Chengdu will have four-hour connections to Central China's transport hub of Wuhan by 2012. This is driving airports and air carriers to reposition their service, with a greater emphasis on international destinations.

LRT AND METRO

The Chinese urban rail market is developing rapidly. Ten cities have already built various metro systems, comprising over 4,000 engine and carriage units. More than 30 cities have put forward plans for urban rail development, while 28 cities have already started projects of extension or new build. RMB200 billion will be invested by 2015, and a further RMB600 billion by 2020.

By 2015, China will become the world's largest urban rail market, with over 2,500km of track and over 9,000 units.

Examples of LRT projects in development for completion by 2015 include: Chengdu (two new lines, three extensions); Harbin (two new lines); Jinan (50km LRT); Nanjing (six lines); Ningbo (two new lines); Shenyang (four new lines, one extension); Tianjin (Seven new lines, five extensions); Wuhan (two new lines); and Xi'an (three lines).



OPPORTUNITIES



There are significant opportunities for UK companies to participate and partner with Chinese service providers in construction, design and engineering consultancy for station new-build and upgrade projects. Shenyang, Tianjin, Qingdao, Nanjing, Hefei and Wuhan are amongst the many regional cities which have major new stations and upgrading projects planned for the next few years.

In the railway engineering sector, most of the projects and opportunities are not directly open to foreign companies. However, there are existing UK and international companies supplying and partnering with various subsidiaries of CRG, CNR and CSR in areas of signalling, locomotive design, electronic systems and provision of turnkey engineering solutions.

China is also increasingly seeking opportunities in international markets, particularly in developing countries. CNR Changchun, for example, has won the contract awarded by the Rio de Janeiro government to supply 30 EMUs (Electric

Multiple Units) worth US\$165 million as part of Brazil's infrastructure improvement projects ahead of the World Cup and Olympic Games in 2014 and 2016.

Chinese railway companies have the appetite to work with UK capability in overseas projects – not just in developing economies, but in markets across the globe.

Operating in China's centralised railways sector could be challenging, even though there are only a few state-owned companies. Navigating your way through the planning and decision-making process, identifying the break-in point in the supply chain and building partnerships all takes time. The Ministry of Railways has not yet fully adopted international practices in many areas, including certification, independent verification and validation, and risk and safety management. To participate in projects may require matched funding of multi-lateral foreign loans, and foreign companies may have to set up joint ventures as manufacturing or R&D centres in order to satisfy market-entry requirements.