The infrastructure sector covers a broad range of construction and development activities in a number of areas, including urban planning and regeneration, buildings, transport networks (such as roads, airports and railways) and sports and public facilities.

A recent McKinsey study forecasted major developments in transport and other network infrastructure as a result of China’s rapid urbanisation. It is predicted that, by 2025, 221 Chinese cities will have more than one million residents. By comparison, there are only 35 cities in Europe of this size today. McKinsey also foresee that five billion square metres of new roads will be paved, 170 mass-transit systems may be built and five million buildings will be erected, with an additional 40 billion square metres of floor space in these cities over the next two decades.

1 McKinsey Global Institute, Preparing for China’s Urban Billion, March 2008
Construction is one of the most important industrial sectors in China. Its output value contributes approximately 7 per cent of national GDP. There are around 128,000 enterprises with 28 million employees engaged in construction in China.

With this massive movement towards urbanisation, China also needs to develop strategies to lessen the environmental impact of this trend by dramatically reducing its use of energy, water, land and materials in building construction.

China’s central and local governments also have to plan and manage this urban expansion, which will impose significant challenges to urban regeneration, transport systems and sustainable development.

**UK CAPABILITIES AND THE CHINA MARKET**

<table>
<thead>
<tr>
<th>China’s Requirements</th>
<th>UK Capability</th>
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<tbody>
<tr>
<td>Development of new infrastructure and transportation networks, such as roads, airports, bridges and railways.</td>
<td>UK expertise in all construction-related consultancy, including master planning, project management, engineering and design.</td>
</tr>
<tr>
<td>Urban regeneration and construction to incorporate cultural heritage, environmental conservation and social cohesion.</td>
<td>The UK has world-leading capability and a growing reputation in urban regeneration, stemming from 40 years of dealing with post-industrialised urban areas.</td>
</tr>
<tr>
<td>Central government has set aggressive targets to attain international standards of energy saving in new buildings.</td>
<td>Internationally proven track record in delivering intelligent, green and energy-efficient buildings. UK consultants and architects lead the world in terms of designing, engineering and delivering leading-edge sustainable buildings.</td>
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**A FUTURE BARRIER WILL BE CHINESE COMPETITION – THE QUALITY OF CHINESE PRODUCTS ARE QUICKLY CATCHING UP WITH WESTERN STANDARDS.**

TINA REDSHAW, HEAD OF ENERGY, ENVIRONMENT, AND INFRASTRUCTURE, UKTI
Urban Infrastructure
The Chinese government has allocated significant investment to stimulate growth and improvements to the infrastructure network. A large proportion is being used to develop new airports, roads, mass-transit systems and public facilities in regional cities.

The government of Guangdong Province recently announced a new plan to build 2,000 kilometres of inter-city rail network, linking all cities in the Pearl River Delta region, including Dongguan and Foshan. There are similar developments planned between cities within the Yangtze River Delta (Suzhou, Hangzhou, Ningbo and Nanjing) and the Bohai Rim (Tangshan and Tianjin).²

UK companies, such as Arup, Halcrow and Integer, have been working closely with local authorities and the private sector on major infrastructure projects in the southwest region of China to offer consultancy, technical aid and designing services. Cities such as Chengdu and Chongqing will continue to improve their infrastructure networks across a range of sectors in the next few years.

Intelligent Building
In order to achieve China's goal in energy saving and sustainable development, the Ministry of Construction has proposed the following targets: 50 per cent of new buildings must reach the standards of green and intelligent buildings by 2010 and 65 per cent by 2020. One third of existing buildings in China, around 13 billion square metres, would require renovation to meet these energy-saving targets.

The UK has a proven track record in constructing intelligent, green and energy-efficient buildings. UK standards, codes and products are also recognised and respected internationally. Significant opportunities exist for UK building and engineering consultants and architects who can offer leading green and efficient building technologies and solutions.

Urban Regeneration
The UK has extensive experience in urban regeneration, particularly that linked with major sports facilities. The Shanghai Expo 2010, the Asian Games 2010 in Guangzhou and the World University Games 2011 bid by Shenzhen all offer great opportunities for UK companies to get involved in related regeneration development projects. The UK’s experience and expertise in sustainable planning to improve the built environment, public transport and living standards will be very much welcomed in the run-up to these events.

There are also a number of important UK-China collaborative sustainability projects underway. At the UK-China Business Summit in January 2008, the two governments signed a Memorandum of Understanding to help overcome a number of barriers to sustainable urban growth and to drive collaboration on the development of the cities of the future. A number of Chinese cities were appointed to participate in the programme, including Shanghai, Dongtan (Dongtan is a suburban area of Shanghai), Wuhan and Chongqing.

Training and Consultancy
The Chinese are interested in UK expertise, but as all planning and design projects must be submitted through a local design institute, UK companies should be prepared to enter a joint venture-style co-operation agreement with local partners. China has 12,300 design institutes and these are capable of good-quality design and planning applications in regards to ordinary buildings. However, they tend to lack experience in large-scale, integrated and super high-rise buildings. The introduction of UK design concepts, engineering services and technologies could be invaluable.

A consortium of UK organisations is partnering with the Chongqing government to establish an Education, Training and Qualification Centre where UK professional institutions will provide professional development courses - primarily in the fields of the built environment and environmental protection.

² Source: Chinese Ministry of Railways -- Medium to Long-Term Railway Strategy
http://www.ce.cn/xwzx/gnsz/gdxw/200807/14/t20080714_16143755.shtml