

# Building Up

In 2010, fresh opportunities revived China's construction and engineering sector and set the stage for new projects

By Hunter Braithwaite

**F**OLLOWING 2008'S ECONOMIC malaise and the recent Expo fervour, construction and engineering firms have come out on top. Robert Li, the vice president and general manager of China Operations for Volvo Construction, puts it simply. "The industry continues to boom. The market almost doubled in 2010." Volvo Construction, which will have nearly tripled its output by the

end of 2011, is one of many companies taking advantage of these opportunities. However, as the various facets of this industry's development in China progress, different circumstances and problems also come to light.

## The Post-Expo Landscape

The global economic downturn certainly affected the construction industry in China

as foreign firms put investment projects on hold or cancelled them all together. However, the 2010 Expo provided a timely jump start as many construction and engineering firms found themselves working on national pavilions.

Bureau Veritas, a global technical consulting firm which provides construction project management services, worked on over ten pavilions including



The industry is booming, according to Robert Li, vice president and general manager of China Operations for Volvo Construction.

those of the UK, Spain, Italy, France, Sweden and Monaco. Now that the Expo has ended, many firms, Bureau Veritas included, are involved in deconstruction efforts. At a time when industrial investments were grinding to a halt, the event provided a jolt to push the entire industry forward.

“Today, there’s more going on in China than ever before,” says Michael Nicholls, international business development manager of Bureau Veritas Construction Business Line. “Almost every sector has seen growth: commercial, pharmaceutical, industrial equipment, food & beverage, petrochemical. Perhaps the most staggering growth, however, has been in the automotive industry, which is really moving at full speed.”

While there is a strong international presence in the Shanghai area, most of this development is tied to domestic firms. However, industry insiders expect

increasing cooperation between both international and domestic organisations over the next few years. Geoff Mills, the director of SIP, a China-based engineering and construction consultancy, sees that, “international partners will be looking for reassurance that China’s constructors can match the best practice standards that they are accustomed to. To this end, I expect we’ll witness the internationalisation of China’s codes and standards, and an increasing drive to attain international professional qualifications and chartered institution memberships.”

**Around Town**

Construction in Shanghai is changing gears, simply because the land is worth too much. “These days, construction in the greater Shanghai region typically requires a high-investment density, such as research and development facilities,” says Nicholls. Due to rising land and labour costs, outlying districts such as Qingpu, Baoshan and Lingang have become prohibitively expensive.

“Automotive OEMs (original equipment manufacturers), for example, are encouraged to go where their markets are and where benefits are best - to places like Chongqing or Shenyang. Jiangsu remains a popular investment location for smaller manufacturers of various industries, but even cities such as Suzhou are expensive and selective compared to locations further West.”

SSOE, an American construction management firm, is charting the growth of industries connected to the rising buying power of the Chinese consumer. The automotive, chemical, and general manufacturing sectors are all expanding, mainly because “global manufacturers are increasingly aware of the importance of the Chinese domestic-consumption market, and the increasing buying-power of the Chinese consumer,” says Andrew Kwok, general manager of Asian Operations, SSOE Group.

Locally, this translates into a retail boom. Muraya DCE is a boutique design, engineering, project management, and construction firm based in Europe and China.

According to Love England, design

director at Muraya DCE, Shanghai’s retail sector is experiencing “explosive growth, with many top North American and European companies trying to gain a foot-hold amongst the city’s ever-expanding consumer base.” This is due almost entirely to the rising disposable

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income levels of the Chinese middle class.

Additionally, there is a wealth of projects that stick to the Better City, Better Life adage. “Shanghai’s mass transit project is the largest of its sort in the world. The integration at Hongqiao of maglev, metro, road and air transport is unprecedented,” says Mills.

The local government and firms are also investing huge sums in environmentally conscious projects. Public health facilities, water treatment, and waste disposal provisions are all being re-envisioned. “Sustainability is of course a huge challenge – there continues to be a focus on energy efficiency and the supply and use of recycled materials, and on durable construction. This is all fundamental,” says Mills.

A large amount of money is also being spent on historic restoration and preservation, though this may not be readily apparent in Shanghai’s increasingly modern city centre.

**Sustainable from the Ground Up**

For local firms, the question becomes one of sustainability. How long can this growth continue, and what actions can be taken to maximise the benefits while exacerbating environmental problems? ▶▶▶



▶▶ Land-use policy is a significant concern for developers in China. There has been much discussion about farmland being sold to developers. Because of this, the government has placed restrictions on arable land that increases costs for all projects.

In addition, water and other natural resources can become a source of competition and contention. “As cities and industries mushroom, cost increases for supporting precious natural resources are being borne by developers without the certainty of being able to pass along all costs to consumers,” says Kwok. It is a precarious move, ecologically, to shift a country the size of China from the rural areas to the city. The dirty reality of pollution, air quality, and access to potable water must be taken into account not only by the government, but by developers, both foreign and domestic.

**It’s a delicate balancing act for the developers to satisfy the priorities of the government while still being able to make a profit**

This places developers (especially international firms) on a tight rope. “They execute the development for China, but ultimately, their natural profit motivation amid tightening land supply, rising costs

(including capital costs), and increased government intervention can naturally be a great concern to them. It’s a delicate balancing act for the developers to satisfy the priorities of the government while still being able to make a profit,” says Kwok.

A way to amend the needs of the company, the government, and the environment is to create sustainable buildings. There are several certification processes, such as ISO 14000 and LEED, which measure sustainable practices and environmental systems management. Bureau Veritas provides Green Building and LEED consulting to help firms build and maintain more ecologically-friendly buildings. “We provide our clients with options that will meet their environmental objectives while staying on budget,” says Nicholls. As well as expensive options like solar panels, there are simple, affordable green options to consider, such as the use ▶▶



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▶▶ of rainwater in flush toilets. China is also developing its own benchmarks. The Green Building Label is a three star rating system designed to encourage sustainability.

Muraya DCE is another firm invested in the greening of Shanghai. They are recognised by the U.S. Green Building Council to manage LEED certified interior design projects. In the manufacturing sector, Volvo is pushing to develop more efficient machinery. “Volvo is a pioneer in using green technology. It’s part of our core philosophy,” says Li. “For example, we use 60 per cent recycled materials in our machines.”

Another major factor is safety. While international developers follow a strict code to ensure safety on their projects, the market is crowded with unregulated fly-by-night companies. Tragedies such as the recent Jing’an fire have highlighted

**China’s construction players will be looking to take advantage of development opportunities internationally, as well as taking on more sophisticated projects at home**

this situation, and could catalyze further developments.

### **The Road Ahead**

Recent years have seen a concerted effort on the part of the government to improve a massive infrastructure linking Shanghai to the surrounding second and third-tier cities. Beyond allowing for easy travel for domestic purposes, Kwok asserts that this influx of high-speed trains and broad highways has created an “incentive... and opportunity for foreign companies to invest in facilities and operations in Chinese markets.” This benefits everyone. The international companies profit from the lower overhead provided by cheaper locations, “It provides the framework needed to develop nationwide operations as well as sales and distribution, and the opportunity to reach the largest and widest

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Sustainability is increasingly important in every aspect of construction; even construction machinery can be made from recycled materials.

Chinese markets.”

There are also numerous benefits for the residents of these smaller cities. “Outlying districts benefit hugely foreign invested construction projects. The construction and operation of foreign facilities create immediate jobs. The community further benefits from the infrastructure developments and investment in new technical schools, not to mention tax revenue that is redistributed over the long term,” says Nicholls.

But after watching the breakdown of the American automotive industry several years ago, the Chinese government might regret emphasising the West’s highway-based logistic model. “Some consider that China missed an early opportunity through making the car industry a pillar industry,” says Mills. “Cities have been transformed from



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**RF:** Konecranes now has over 362,000 cranes under service contracts worldwide. We pool our global knowledge, and although we have a clear focus on local talent, there is a well-developed system to support

our people so that they bring international insight to every project. We came to China in 2002 to grow with the market as industry leaders. We combine our global knowledge with the understanding of local conditions to always present the best solution for every customer. With this background, we are

involved in booming industries, including automobile and paper, and we also support emerging sectors, such as nuclear energy and waste-to-energy.

We will continue this work across the country. There’s a lot to be done in the hinterlands, and I’m still committed to supporting the prosperous eastern seaboard. We also want to be there for companies reaching beyond Chinese borders. Chinese companies have the potential – and the ambition – to make that leap.

**SBR:** What are your plans for further development in the region?

**RF:** Wherever we go in the world, we are adding to our wealth of knowledge. China has to be a part of that. Our work here is also an integral part of our commitment to Asia. We see potential for growth across the continent.

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**SBR:** What kind of challenges have you come up against as you’ve developed your business in China?

**RF:** Sometimes, it has taken perseverance to extend our priorities to this market. We’ve found that on occasion there’s been a need for a stronger emphasis on safety. Safety is very important to us, and we had to make sure that it found its place at the heart of our operations as well as at our customers’. With persistence, we’ve succeeded, and I hope that by doing that we are making it clear that we want to make a positive contribution to a country where we continue to build strong relationships.

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▶▶▶ relatively tight urban communities to more dispersed conurbations over-dependent on road transport.” If development’s current trajectory is to be sustained, logistical costs must decline. One way to achieve this is integrated transportation. While building the highways might have been a partial misstep, Mills says that “the more recent massive investment in mass transit systems and integrated transport hubs in Shanghai is redressing the balance and providing a more sustainable model for the future.”

For example, consider the ways in which the expansion of Shanghai’s public transportation system has transformed urban (and suburban) life. “The big thing is convenience,” says Englund. “The more convenient it is to get around, the more people and businesses will move away from the city centre.” This simple idea is being applied on a regional and national level.

SSOE recognises the wide scale impact of this philosophy. The development of infrastructure connecting these cities “allows citizens of second- and third-tier cities to be connected to a nationwide “societal grid” without being required to migrate to China’s largest cities – which

has traditionally been the trend,” says Kwok.

**What to Expect**

Agility and transportation are going to be taken to a higher level over the coming years, as China takes a more outward role in construction and development. The

**Cities have been transformed from relatively tight urban communities to more dispersed conurbations over-dependent on road transport**

construction industry will continue to grow, but it will also be refined. As physical assets mature, there will be a decline in the level of infrastructure investment. Instead,

“China’s construction players will be looking to take advantage of development opportunities internationally, as well as taking on more sophisticated projects at home, where the assets being built will now require constant maintenance, expansion and reinforcement, to continue serving their purpose,” says Mills. “We can see China taking an ever greater role in global development. This is a unique situation in the world today.”

As the industry matures, several issues become more apparent. Kwok envisions increasing hyper-competition, operating- and capital- cost increases and sharp constraints in recruiting, developing, and retaining talent at an affordable cost.

Nicholls says that one of the field’s current concerns is the shortage of qualified employees. “As confidence has come back to the market, there has been a surge of construction activity that we expect will continue in 2011. As a service provider, our most important asset is our staff, so it important that we have long-term employees who grow with the company and learn our standards.” As the field continues to grow, talented professionals are becoming one of the scarcest resources. **SBR**



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