
Off-Highway Research

The Construction Equipment Industry in CHINA

MARKET REPORT

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AGCO ADDS INVESTMENT IN CHINA

On 8th November 2010 AGCO announced its plan to build a second tractor manufacturing facility in China, which is to be located in Daqing in Heilongjiang Province in the northeast of the country. The planned facility will focus on over 190 horsepower tractors as well as combine harvesters.

One year ago AGCO signed an agreement with Changzhou Government to set up a manufacturing operation for low to medium horsepower tractors in its development zone. The total investment in this project amounted to \$29.8 million, and a local company with a name of AGCO (Changzhou) Agricultural Machinery was registered in June 2010. Until recently, AGCO has been working on recruitment and establishing a supply chain, and production has now begun in a leased facility.

At the same time, AGCO continued to look for the opportunity to establish a production centre for large tractors in Heilongjiang, an intention that was first spelled out last year (see our Market Report issued January 2010.) AGCO visited Daqing in August and received an offer of support from the local government, and this is thought to have facilitated the final decision announced recently.

Sources have suggested that AGCO's total investment plan amounts to \$100 million, although the manufacturer has not released details of its investment in Heilongjiang. What can be certain, however, is that the investment will be made in different stages.

Heilongjiang is one of the most important farming provinces in China, with large scale operations prominent, hence the greater popularity of large horsepower tractors and harvesters than in the central provinces. While total tractor sales have stagnated recently, after the high growth fuelled by government subsidies, Heilongjiang has continued to see steadily growing demand for over 180 horsepower tractors. According to the province's own statistics, sales of 185-485 horsepower tractors amounted to 850 units in 2009, a rise of more than five times over the previous year. The population of tractors of this size is estimated to be in the region of 35,000 units in the province, of which AGCO Valtra accounts for about 30 per cent.

This booming province has also attracted investment by Chinese manufacturers including First Tractor and Foton Lovol, which have also invested in establishing production of large tractors there, and a number of parts suppliers are to establish a presence there as well. While AGCO has already demonstrated a strong presence in this market, it will be faced with increasing competition from the local industry. To make its latest project a success, it may have to localise the supply chain and maximise the distribution and service network it has established in the province.

BAUMA CHINA ACHIEVES RECORD NUMBERS OF EXHIBITORS AND VISITORS

The Bauma China 2010 exhibition, which took place 23-26th November in Shanghai, to be proved even more successful than in 2008, reflecting the still booming demand in the country that has now become by far the world's largest market for off-highway equipment. The show was also regarded as being an ideal showcase for Chinese companies to explore their international opportunities. Although some American manufacturers like Caterpillar (except for a small in-door booth showing its transmission technology), Case and John Deere did not exhibit at the show, demand for stand space nevertheless far exceeded supply. Yuchai, for example, could not bring its construction equipment (apart from diesel engines) due to the limited space available, and Xiangong had to make do with a stand of 2,800 m² instead of a requested area of 4,000-5,000 m².

In total there were 1,858 exhibitors that occupied a total area of 230,000 m² spread over nine indoor halls and a very large outdoor area, while visitors numbered more than 150,000. Given the size of the show and the number of visitors, many people thought the 3.5 day show should be extended for another day.

Some 150 OEMs exhibited at the show, and most major manufacturers occupied similar booth locations to those of two years ago. While many have since broadened their range of products on offer, it was difficult to exhibit this breadth of equipment in the limited space afforded by their booths. As a result, priority was usually given to new product lines and new models, and resulted in the exhibition offering a more diverse selection of products than in previous years.

The review that follows is not able to cover all manufacturers, but instead represents a selection of exhibits from major companies or machines with new features.

Bomag showed its self-propelled, tandem and pneumatic tyre rollers as well as vibrating plates, and its unique compaction control technology was promoted together with its machines. In addition, it also promoted the range of asphalt finishers that it has now begun to sell in China.

Doosan highlighted a new 25 tonne crawler excavator, the DX260-LC, which was specially designed for China and first came to the market in March 2010. Other excavators on display included a DX60W wheeled excavator, two DX excavators and a DH215-9 crawler excavator. Bobcat's MX331 mini excavator and skid-steer loaders were demonstrated, and the imported Moxy MT41 articulated truck and Mega500V wheeled loader were also shown. The Shandong-produced wheeled loaders, the DL503 Gold and DL505 models, both being upgraded versions of the original

products, were also on display. The company expects to have sold 3,500 wheeled loaders in 2010, which demonstrates the growing success of this localised product.

Fuwa, the crawler crane specialist, showed five crawler cranes ranging from 55-750 tonnes, and it also displayed a 25 tonne truck-mounted and a 25 tonne rough terrain crane, both of which were developed in Jinzhou.

Hitachi had a rather modest outdoor stand of about 1,000 m². Alongside a material grab, the company exhibited four hydraulic excavators from seven to 82 tonnes including the ZX360, its most popular large machine model (over 30 tonnes), and an old ZX-70, which has been one of its most popular machines. The exhibit was organised by its trading company in Shanghai, but for such an important manufacturer its presence seemed to be rather low key.

Hyundai launched a new hybrid crawler excavator, the Robex 225LC-9, which is made in Changzhou. Hyundai Jiangsu also displayed four Robex-9 models from 22-48 tonnes, and an 82 tonne R805LC-7. Beijing Hyundai showed five excavators from 6-20 tonnes, including two wheeled models, and three industrial forklift trucks.

JCB displayed its traditional Dancing Diggers, with five 3CX ECO backhoe loaders featuring pilot controls. More noteworthy and relevant to market demand, however, were the five excavators from 5.5 to 38 tonnes which have contributed to the company's recently increased sales in the country.

Jianglu, which exhibited under the name of CNGC, a large state conglomerate consisting of a number of manufacturers serving the military industry, brought four of its traditional compaction equipment units and nine excavators from 1.7 to 31.5 tonnes, including one wheeled model, a reflection of the company's development since it relocated to its new manufacturing facility.

Kobelco and **Chengong** had their traditional joint stand, totalling about 1,500 m². Kobelco exhibited five domestically produced excavators from 6-51 tonnes, and a 22 tonne imported machine that was in yellow livery. The manufacturer highlighted its '820' technology that it says helps improve the productivity and fuel economy of its excavators. Chengong showed five wheeled loaders from 125-340 horsepower, and a range of motor graders and backhoe loaders.

Komatsu, on its 2,000 m² stand, showed a diverse range of products, though the seven excavators from five to 42 tonnes were undoubtedly the heart of its exhibit. On the demonstration area it displayed the hybrid PC200-8 excavator model, together with the D65EX-16 crawler dozer. The rigid dump truck HD325 and two wheeled loaders, WA380-6 and WA470-6, all built at its Changzhou factory, were also on display, as was a hybrid electric forklift truck. Komatsu is now the leading

international manufacturer in China, though the show stand was considered to be a relatively muted and modest affair, especially when compared with its ambitious Chinese rivals.

Kubota was opposite Hitachi and lined up six zero tail swing excavators from 1.6 to 8.3 tonnes, including two DASH5 models that will become available in 2011. With increased sales in China, the manufacturer announced its plan to build an excavator factory in Wuxi within two years, and the products exhibited were understood to be part of its portfolio of machines that will be locally produced.

Liebherr had a 2,000 m² stand where it showed a range of crawler excavators and grabs, including an R916LC model from its Dalian factory, and two concrete transit trucks that had been manufactured in Xuzhou. Also on display were a 1,200 tonne telescopic boom crawler crane that had been sold to a client working on a wind farm, and a 90 tonne compact bodied crawler crane. A featured product was its 191 horsepower hydrostatic L556 II wheeled loader, which is now available from its Dalian factory and which was launched earlier this year. With a 3.5m³ bucket, the L556 II is claimed to have been specifically developed to satisfy the needs of the Chinese market, and consumes 25 per cent less fuel than its competition.

Liugong brought its full range of skid-steer loaders consisting of the CLG365A, CLG375A and CLG325 models, as well as its backhoe loaders including the CLG766A and CLG77A models, which have been heavily promoted over the last 10 months after a product upgrade. Three of these machines were available on its demonstration area, and the rest were displayed inside. At the centre of its 2,500 m² stand the company highlighted three new products from its three core product categories: a CLG862 hybrid wheeled loader; a CLG922D hybrid crawler excavator; and a CLG TC500 truck-mounted crane that incorporated its newly developed chassis. The earthmoving section also featured another two wheeled loaders (CLG856 and 888), two crawler dozers (CLG B160 and CLG B320) and four crawler excavators (CLG906D, 908D, 915D and 936D). The road machinery line was made up of a grader (CLG414), three tandem rollers (CLG6008, 6028 and CLG614T) and a self-propelled roller (CLG6124). In addition, a 25 tonne truck-mounted crane (CLG TC250) and a 100 tonne crawler crane (CLG CC1000) were brought to the exhibition from its Bengbu factory.

Lonking made its second appearance at this international event and occupied the same location as it did two years ago. For its wheeled loaders, only models designed for export were displayed, partly because of the limited space but also because of its intention to focus increasingly on overseas markets. Four wheeled loaders in the 140-240 horsepower range were displayed under its export brand of CDM (China Dragon Machinery). Lonking also showed its transmissions and axles designed for large wheeled loaders over 200 horsepower, and it claimed that its range of wheeled

loaders have now been extended to 340 horsepower. In addition, emphasis was put on its growing range of hydraulic excavators, with 11 units from 6.5-48 tonnes being displayed. In addition, compaction equipment and skid-steer loaders were on display, and these underlined its ambitions to be a genuine long line manufacturer. Lonking has decided to focus on its current product lines for the near future, while its exhibit did indicate its emphasis on exports.

Manitowoc showed its 100 tonne crawler crane, the MLC100, which is now available from its Zhangjiagang factory. In addition, it also brought to the exhibition two truck-mounted cranes from its joint venture with Dongyue: a 25 tonne model on a Wuyue chassis, and a newly added 55 tonne machine on a FAW chassis.

Sany occupied half of the E3 hall as well as a large outdoor space in front of it, the two displays having a total area of 7,000 m². In the outdoor area it displayed two all terrain cranes of 220 and 1,200 tonnes respectively, and four 300-1,600 tonne crawler cranes. The company said the 1,600 tonne crawler model had been sold to a Guangdong customer, and an even larger model is now being developed. It also released its new 1,000 tonne all terrain crane. Of its traditional range of truck-mounted pumps, a 72 metre machine on display which was claimed to be the largest model in the world, and this was accompanied by another two models at 46 and 56 metres. A 55 tonne rigid dump truck and a 70 tonne crawler excavator were showed working together, and they were accompanied by four rotary rigs.

In the indoor area Sany lined up 10 hydraulic excavators, ranging from 7.0-42.5 tonnes; of these, the SY75C-9 model featured electric drive. The road machinery section was made up of a 9.0 metre asphalt finisher, the SHG190 motor grader, three rollers and a range of special equipment. Other featured products included a 55 tonne rough terrain crane, and its traditional concrete machinery. The company hosted a number of promotional events on the site, including the visit of five Chilean miners who were rescued after being trapped underground for 69 days. The company claimed it gained RMB3 billion worth of orders during the show.

Shantui, on its 1,200 m² outdoor plot, displayed crawler dozers, motor graders, asphalt finishers, compaction equipment, rotary rigs, forklift trucks, concrete pumps and mixing plants. The manufacturer intentionally demonstrated its broadened product range, while for its traditional dozer line it only showed a 100 horsepower hydrostatic model and the largest 520 horsepower machine. In addition, it exhibited a range of components on an indoor stand.

Singapore Technology Kinetics combined its different joint ventures into a single exhibit for the first time, and launched its corporate brand of TRXBUILD. The three joint ventures were integrated into a 2,000 m² area: **Jonyang Kinetics** showed eight crawler excavators from 6-75 tonnes, four wheeled machines from 6-35 tonnes and

a 2.4t/6m telescopic handler; **Huatong Kinetics** displayed its traditional asphalt finishers, cold planers, asphalt mixing plant and recycling machine, and also a new 190 horsepower grader; **Zhonghuan Kinetics** exhibited a new 45 tonne rigid dump truck, and its A300D articulated truck that was marked as having been sold to a Mexican customer.

SinoMach, the state-owned conglomerate that has recently increased its interests in the construction equipment industry, exhibited its three different companies under a common banner. **Changlin** displayed its traditional range of wheeled loaders, motor graders, compaction equipment and compact equipment as well as lorry loaders, though the most notable products were four 8-25 tonne crawler excavators branded 'Fuma'. Fuma is a holding company owned by SinoMach and has shares in Changlin. **DTCM** displayed four motor graders (160-350 horsepower), three asphalt finishers, two rotary rigs, two cold planers and two backhoe loaders. **Yituo** showed selected compaction equipment models, crawler dozers, excavators and forklift trucks. Given the recent restructuring of DTCM and Yituo, SinoMach is likely to integrate the different manufacturing operations in the near future.

Strong, which replaced the old Joyo brand name and is now a growing excavator manufacturer in the Shandong Heavy Industry Group, showed two lines of excavators. The four yellow models from 6-33 tonnes were produced in Linyi and used the old brand of JCM; another four blue models from 21-45 tonnes were from the new factory in Jining and were branded Strong. In addition, the company has just acquired **Hengte**, which presented its range of economic excavators in a separate indoor booth.

Sunward displayed its traditional range of small excavators and piling machinery, and on its demonstration area showed a remote control mini excavator and a hybrid crawler excavator, the SWE230S. For the last two years the company has increased its sales of mid-sized crawler excavators, and this was reflected in its strong display of crawler excavators up to 36 tonnes. In addition, it also exhibited a 13 tonne wheeled excavator, two skid-steer loaders and three forklift trucks. New products included a 50 tonne crawler crane with telescopic boom, a 9 metre asphalt finisher and a one metre cold planer (SWM100), which will eventually be in the product portfolio of its Tianjin factory which is currently under development.

Terex combined a range of localised products on its outdoor stand. The mobile crane section comprised a 360 tonne crawler crane branded Topower, a recently acquired manufacturer from Shandong, two truck-mounted cranes at 30 and 100 tonnes that were launched by Changjiang, as well as a 350 tonne all-terrain and a 55 tonne rough terrain crane that were imported from Germany. Also on the stand were an Atlas TC215 crawler excavator, and two rigid dump trucks (35 and 91 tonnes) from North Hauler.

Volvo and **Lingong** had two separate outdoor stands. On Volvo's plot were two imported wheeled loaders (the L180E and L220E), as well as an articulated dump truck (A40E), all of which achieve good sales to the mining and quarrying industries. Of its excavator line, it displayed a new EC200B Prime model, which has a lower price than its traditional EC210B, and is supposed to improve competitiveness in the Chinese market. This was accompanied by an EC60C mini excavator and a larger crawler machine (EC460BLC). Lingong, with products branded **SDLG**, showed four wheeled loaders from 80-300 horsepower and a diverse range of compaction equipment, motor graders and forklift trucks. The highlight, however, was the display of a full range of six crawler excavators from 6.5 to 30 tonnes that have been developed with the support of Volvo.

Wirtgen, as it did two years ago, occupied the central area of Hall E2 and showed an impressive range of road machinery, including four asphalt finishers (the Super 800, 1103, 1800 and 2100 models) and five tandem rollers (1.6-14 tonnes, with one oscillation model). On the other side of the stand it displayed a full range of cold planers, including the LW100L that is assembled in Langfang, as well as a cold recycler, a soil stabiliser, a slipform paver and a stone crusher.

World, the Jiangsu-based manufacturer that entered the industry in 2007, showed a range of wheeled loaders from 125-220 horsepower and a line of excavators up to 42 tonnes. The manufacturer has completed its separation from Yigong and now bases all its production in Zhenjiang. For 2010 it anticipates that total production would amount to 2,000 wheeled loaders and 1,000 excavators.

Ygong, the current name of the company that was previously known as Yigong, had an outdoor stand of 700 m² at the west entrance. The company was incorporated one year ago through the involvement of a Zhejiang investor. At the exhibition it demonstrated its traditional wheeled loaders but also a new range of excavators. The manufacturer signed a co-operation agreement with Nagano in September 2010 to introduce the Japanese manufacturer's technology.

XCMG, on its 4,550 m² outdoor stand, highlighted its new range of mobile cranes, including a 2,000 tonne crawler machine, and its 800-1,200 tonne all-terrain models, of which it sold six units to customers during the show. In addition, the manufacturer also upgraded its range of truck-mounted cranes to 160 tonnes lift capacity, and a new 100 tonne rough terrain crane was added. Of its wheeled loader range, it displayed a new 532 horsepower model (LW1200K) the largest available from any Chinese manufacturer, and a natural gas powered model designated the LNG-LW500K. The company exhibited a complete set of road machinery, including motor graders, asphalt finishers and tandem rollers, with a highlight on the recent development of its traditional product lines. A large portion of the stand was

allocated to the new range of excavators up to 70 tonnes, and on the demonstration area it showed the operation of the ET110 walking excavator, which was introduced 10 years ago after an order from the army, and is now being sold on the civilian market.

Xiagong used the exhibition to promote its new product lines including rotary rigs and concrete machinery. A total of 35 machines were displayed, but the heart of its stand was still occupied by wheeled loaders, including a new CNG model (XG955III) powered by natural gas and the XG932-III, XG956-III, XG958-II, XG962-III and XG982 machines, and hydraulic excavators including the XG806, XG808, XG815, XG822LC, XG825LC models, and its latest 36 tonne machine (XG836LC) with its XG836MH variant for steel handling. At the show the company also unveiled its prototype 1,100 kilogram capacity skid-steer loader (XG30100), and a new transmission system for wheeled loaders. Other featured products included a 320 horsepower crawler dozer and an on-off highway dump truck.

Xinzhhu, after launching its IPO recently, displayed its new range of hydraulic excavators from 6.2 to 22.6 tonnes, as well as a 9 metre, hydraulically extendable asphalt finisher. Both product lines were from its subsidiary in Meishan in Sichuan Province, and the company has high hopes for strong growth in future sales of its excavators.

Zhenyu, which is now operating under the name of **Rong An Heavy Industry**, showed seven excavators. While the stand was registered in the name of Zhenyu, the Rong An name was vigorously promoted. The construction of its new excavator factory, with a designed capacity of 30,000 excavators and 400 rotary rigs, started just a week before the show with a total investment of RMB2.64 billion.

Zoomlion, on its 4,000 m² outdoor area, showed its 110 and 150 tonne truck-mounted cranes, 260 tonne, 400 tonne and 500 tonne all-terrain cranes, 80 tonne, 180 tonne and 650 tonne crawler cranes, and a 55 tonne rough terrain crane. The D5200-240 tower crane was claimed to be the largest in the world, and other featured products included four truck-mounted concrete pumps, truck mixers, a ZD235 crawler dozer, a SUPER130 asphalt finisher and rotary rigs. In the neighbouring indoor space the company showed its new range of excavators, including a hybrid model (ZE205E-H), but an even more impressive product was the 125 tonne mining excavator. Zoomlion also signed a contract to sell cranes with a total value of RMB120 million to a wind farm contractor in Xinjiang. Both parties agreed to work together on developing a 1,000 tonne all-terrain crane.

CATERPILLAR TO PRODUCE LARGE ENGINES IN TIANJIN

On 18 November 2010, Caterpillar announced plans to increase its worldwide production capacity of large engines by constructing a new manufacturing facility in Tianjin. The planned facility is to be located in the Airport Economic Zone of the City, and will cost \$300 million, which is thought to be Caterpillar's largest investment in an engine facility in China.

Caterpillar plans to commence the initial stage of construction in the first half of 2011, and finish by 2013. When the new factory becomes operational, it will manufacture the 3500 series of diesel engines, ranging from 690-3,400 horsepower, which is primarily for industrial applications including the irrigation, oil and gas, locomotive, marine and energy sectors. The products are mainly destined for the domestic market, as well as for the Asia Pacific region.

Caterpillar is the world's largest manufacturer of medium speed engines, as well as one of the largest manufacturers of high speed diesel engines, ranging from 10 to 21,760 horsepower with displacements from 0.5-296 litres. There are nearly 500 models comprising three brands: Caterpillar and Perkins, for a wide range of industries such as trucks, marine, construction and mining equipment (CAT brand only), material handling and aircraft ground support, and the MaK medium-speed line for marine applications.

Table 1. Caterpillar: Range of 3500 Series Engines, 2010

Model	Bore x Stroke (mm x mm)	Rated Output (kW)	Speed (rpm)	No. of Cylinders	Displacement(L)	Emission Standard
3508	170 x 190	507-857	1,200-1,800	8	34.5	Non-Certified
3508B	170 x 190	578-1,118	1,200-1,925	8	34.5	Tier 1
3508C	170 x 190	578-820	1,200-1,600	8	34.5	Tier 2
3512	170 x 190	761-1,305	1,200-1,800	12	51.8	Non-Certified
3512B	170 x 190	820-1,678	1,200-1,925	12	51.8	Tier 1
3512C	170 x 190	969-1,895	1,200-1,800	12	51.8	Tier 2
3516	170 x 190	1,011-1,640	1,200-1,800	16	69.0	Non-Certified
3516B	170 x 190	1,230-2,237	1,200-1,925	16	69.0	Tier 1
3516C	170 x 190	1,230-2,525	1,200-1,800	16	69.0	Tier 2

Source: Company Information

Caterpillar now has three engine facilities in China: Caterpillar Motoren Guangdong, which was formed in 1994 in the Shunde District, Foshan City to produce the MaK engines; Perkins Shibaura Engines and Perkins Power Systems Technology, both located in Wuxi, which manufacture the Perkins 400 series and 1100 series engines respectively. The new factory in Tianjin will be the fourth engine facility in the country, and the third production base for CAT 3500 series in the

world, alongside the large engine centre in Lafayette, USA, and Caterpillar India Private Limited, a wholly owned subsidiary in India.

As a leading international construction equipment manufacturer, Caterpillar has not only been ambitious to increase its presence in Chinese market, but has also reiterated its intention for China to be used as one of its global manufacturing bases for all product lines including machines and components. Recently it has announced different plans to expand the Xuzhou facility and to add a new excavator factory in Suzhou, and the formation of a joint venture to produce hydraulic pumps & motors in Wuxi (see our Market Reports issued in September, November and December 2010). According to the company, it will also add a facility for producing undercarriages for large excavators in Xuzhou, and will expand its investment in Jiangsu Province to establish a whole supply chain for construction equipment over the next five years.

XIAGONG: GREATLY IMPROVED PERFORMANCE

During the first 11 months of 2010, Xiangong has made impressive progress in the wheeled loader market. It has not only defended its number three position with sales of over 30,000 units, but is also set to further improve its ranking in 2011. Established in 1951 with just 26 employees and six machine tools, the company has launched a series of events since November 2010 to celebrate its 60th anniversary. World Brand Lab believes that the Xiangong brand now has a value of RMB11 billion, which ranks it first in the Chinese construction machinery industry. By the end of March 2010, Xiangong had sold a total of 200,000 units of wheeled loaders worldwide.

However, it is worth pointing out that the last time when Xiangong was the market leader in the wheeled loader sector, its market share was 15 per cent. Six years later, in 2009, that same market share saw Xiangong being ranked as the third largest supplier. The implication seems to be that while its main rivals, Liugong, Lonking and SDLG, have successfully increased their presence in this market, Xiangong has failed to do so.

The reasons behind this are many and various, including an apparent lack of leadership, as the position of General Manager went unfilled for several years. Customers became dissatisfied through having seen no substantial improvements in either the company's products or services offered over the past few years, while there has been a lack of confidence from its dealers in the future of the company, which has resulted in a certain lack of motivation and commitment to the franchise. Moreover, there has been poor internal coordination and support available to dealers and customers, while the closing down of small coal mines, which used to account for over 30 per cent of the company's total sales, has had a significant impact. Last but not least, the market's increasing preference for medium and long wheel based wheeled loaders has reduced the appeal of Xiangong's traditional short wheel base products.

The key reason for all the progress achieved since 2009 is the arrival of Xiangong's current General Manager, Mr. Kyoo Jeon Chae. He is Korean, which makes the appointment all the more interesting. Shortly after his appointment, he sent out teams to visit some 2,000 Xiangong wheeled loader customers and the feedback has enabled Xiangong to make over 100 changes on either product design or production process, from the handrail design to the pipeline arrangements, from strengthened buckets to extra side teeth to better hold bulky material. More importantly, Mr. Chae has rebuilt the confidence of both company employees and its dealers.

In November 2009, the company structure was re-organised into different business divisions based on product types. One month later, Xiangong launched a campaign called XPI521 to improve product quality five-fold, as well as doubling the

productivity and efficiency of its manufacturing process; the company also targeted becoming wheeled loader market leader. In parallel, an internal management project called XG-OPPS was developed in the middle of 2010 to improve Xiangong's organisation, position, performance and salaries.

The founding and development of **Xiangong Machinery (Jiaozuo) Co. Ltd** in Henan has also played a significant role. This factory, which has just celebrated its third anniversary, has not only substantially increased the competitiveness of Xiangong's products by saving transportation costs of RMB6,000 per unit and shortening the delivery time of both complete machines and parts for its customers in north China, but the process has also overcome the previous constraints in its production capacity for wheeled loaders.

After the first wheeled loader came off the assembly line in January 2008, Xiangong Jiaozuo has been rapidly building up its capacity. Up to now, Xiangong has invested RMB800 million in Jiaozuo, and by August 2010 it had produced 11,852 wheeled loaders. The annual output in 2011 is expected to be around 7,000 units, which will generate a turnover of RMB1.5 billion and a net profit of RMB120 million. The capacity in Jiaozuo for Phase 1 is 10,000 units, while Phase 2 and Phase 3 will jointly add another 10,000 unit capacity for other products. At present three models are manufactured on the site (the XG931, XG951 and XG953), but the range will be further expanded in 2011 to cover the full range of medium to large models. Indeed, Xiangong intends to build Jiaozuo into an industrial base where wheeled loaders, forklift trucks, compact equipment and pavement machines will be manufactured.

Meanwhile, Xiangong has been adjusting its product structure to adapt to perceived changing demand and customer preferences, especially in the five tonne category. It has realised that its traditional best selling models (the XG951 and XG953) renowned for their short body length and flexibility, are losing their appeal to customers who now have different jobs to do, while the XG955, with a medium body length, and the XG956 with a long body length, have seen growing demand that it found difficult to fulfil given its current production capacity. Xiangong believed that it could have had performed better in 2010 if it had had greater capacity for both models. Also, although the company offers a six tonne model (the XG962), it does not believe machines of more than five tonnes have much of a future in China. In the compact range, its hydrostatic XG904 has not been received well in the market and the planned XG907 with the same technology has not been launched. The marketing focus in 2011 will be on the new version of its third series models, represented by the XG956 III and XG955III models.

Xiangong has also made great efforts to improve the quality of its outsourced components. An improvement programme called SPI521 focusing on component supply was launched in March 2010. The company will increase its capacity for axles

and transmission from 30,000 to 36,000 sets. In the foreseeable future, Jiaozuo will still source these two key components from Xiamen. A joint venture between Xiagong and Xiamen Yuming Construction Machinery has been set up in Jiaozuo to supply structural parts for Xiagong, and there are seven components suppliers from Fujian who have also expressed their intention to do the same. Very recently, Xiagong and the Eaton Corporation announced that the latter will supply its advanced progressive-torque, limited-slip differential for Xiagong's 5 tonne wheeled loader, the XG956III. Xiagong is the first manufacturer worldwide to incorporate this technology in a wheel loader, which it hopes will enable its products to achieve superior performance and achieve better fuel economy.

There are four assembly lines for wheeled loaders in Xiamen, and they have a combined capacity to assemble 150 units per day, while the daily capacity in Jiaozuo has reached 30 units. To realise its sales target of 35,000 to 40,000 wheeled loaders in 2011, Xiamen is now building thousands of machines for stock to cope with the initial peak selling season that comes in the first quarter of the year.

While Xiagong is confident that it will be able to regain its leading position in the wheeled loader market, it is aware that to become a major supplier in the crawler excavator market will require more effort and patience. It sold over 1,200 units in 2009 and there is little doubt that it will achieve its target of 2,500 units in 2010. For 2011 and 2012, this company hopes to sell 6,000 units and 10,000 units respectively.

At present, Xiagong has some 40 dealers holding excavator franchises, half of which also sell Xiagong's wheeled loaders. Unlike many other wheeled loader manufacturers that have been trying to setting up a separate distribution network for their excavators, Xiagong tends to use its wheeled loader dealers – there are 80 of them – unless they show no interest. The company believes that the mutual trust and acceptance established with its dealers over the years is more important than knowledge and experience of selling excavators. Partly because of this, the most important customers for Xiagong's excavators are owners of its wheeled loaders who have either replaced their loaders with Xiagong excavators, or have started to buy excavators.

At present, Xiagong has one production line for hydraulic excavators and two lines for mini excavators. Given that the company has not been able to register substantial growth in the mini excavator market and the high expectations placed on its participation in the crawler excavator market, Xiagong plans to invest RMB730 million to increase its total capacity for manufacturing crawler excavators from the current 3,000 units to 12,000 units. Upon completion of this expansion project, which is scheduled to start in 2011, the company will have three assembly lines, one for small excavators of eight tonne and below, one for medium products from 15-25 tonnes, and one for large machines over 25 tonnes. New models with

operating weights in the region of 25 to 30 tonnes will be added, but for the foreseeable future 36 tonnes will be its largest model and it has no intention to further expand its mid-range models. The company terminated production of its wheeled model in 2010 due to small sales volumes and low profit margins, but it has not ruled out re-launching it in the future.

Table 2. Xiangong: Component Sourcing for Wheeled Loaders and Crawler Excavators, 2011

	Wheeled Loaders	Crawler Excavators
Engines	Shanghai Diesel, Hangzhou Engine, Cummins Import, Yuchai, Luoyang	Isuzu
Transmissions	Xiangong Group, Hangzhou, LZZF	-
Axles	In-house	-
Hydraulic Pumps	Jinan, Fuzhou	Kawasaki, Toshiba
Hydraulic Valves	Zhenjiang	Kawasaki, Toshiba
Hydraulic Cylinders	Xiamen Yinhua, Longyan	KYB
Drive Motors	-	Nabtesco (Shanghai)
Slewing Motors	-	KYB
Slewing Rings	-	Fangyuan
Cabs	Xiamen Yuming	Local sources in Fujian
Booms and Arms	In-house	In-house
Buckets	Xiamen Jinlong, Xiamen Kaiyuan	Local sources in Fujian
Tracks	-	Shantui
Tyres	Aeolus	-

Source: Company Information

Xiangong has a dedicated assembly line for backhoe loaders and skid-steer loaders, but both products have yet to establish themselves in either domestic or international markets. Five years after Xiangong released its XG765, a 95 horsepower rigid backhoe loader with a centre post, it has sold three units in China and exported 32 units in 2011. This is a useful increase compared to its exports of 20 units in 2009, but volumes still remain very modest, and the company has done little to upgrade the product except for a new exterior design.

The skid-steer loader was launched in June 2007 but has also seen little progress. It only offers one model, the 69 horsepower XG3090 with an operating capacity of 926 kilograms. The 75 horsepower XG30100 (operating capacity 1,100 kilograms) which was displayed at Bauma China, is a prototype and will be launched in 2011 to replace the XG3090. The new model uses a Kubota engine and joy stick controls while the current model has a Yanmar engine and pilot controls. Customers might have to pay a premium for the new machine, even though the price of the old model is already 10 per cent higher than that of similar machines. In 2010, Xiangong only managed to sell one unit in Fujian and another that was sold overseas.

The lack of marketing effort from both the company and its dealers probably implies that sales are achieved only if a customer approaches its local dealer, which in turn

does not carry any inventory of skid-steer loaders or backhoe loaders. Xiangong has no plans to develop dedicated dealers for either product 2011, so it is unlikely that its sales position will change in the near future.

In the short to medium term, Xiangong will continue focusing on its five product categories: wheeled loaders; hydraulic excavators; compact equipment; pavement machinery; and forklift trucks. Meanwhile, it will further expand its business in pile foundation and concrete machinery through providing a full range of products, and released its first rotary rig and concrete pumps in November 2010. This company soon hopes to reach a turnover of RMB50 billion, and aims to be ranked among the industry's five leading manufacturers.

ZOOMLION ISSUES PUBLIC SHARES IN HONG KONG

Zoomlion has announced that it has been approved by the China Security Regulatory Commission to float public shares on the Hong Kong Stock Exchange. The issue of the new shares began on 13th December 2010, and in its prospectus it expected to raise RMB9.9-13.5 billion.

The company's total equity is to increase to over 5.9 billion shares through issuing a maximum of one billion H shares to the public. The Hunan State Owned Assets Supervision and Administration Commission, which currently has a controlling interest, will dilute its proportion of shares owned from 21.4 per cent to no less than 16.2 per cent, but will remain the largest shareholder, while its main owner remains the Hunan Government.

Table 3. Zoomlion: Ownership Structure, 2010

	Before Issue		After Issue (Upper Limit)	
	No. of Shares	%	No. of Shares	%
Hunan SASAC	1,055,815,342	21.4	959,523,074	16.2
Good Excel	363,634,100	7.4	363,634,100	6.1
Changsha Hesheng	303,199,961	6.2	303,199,961	5.1
Changsha Yifang	189,726,962	3.9	189,726,962	3.2
Real Smart International	140,076,617	2.8	140,076,617	2.4
Hunan Development Group	40,272,025	0.8	36,562,273	0.6
A Shares	2,834,911,755	57.5	2,834,911,755	47.8
H Shares	-	-	1,000,020,200	16.9
State-owned H Shares	-	-	100,002,020	1.7
Total	4,927,636,762	100.0	5,927,656,962	100.0

Source: Company Information

Zoomlion started business in 1992 as a specialist manufacturer of concrete pumps and floated public shares on the Shenzhen Stock Exchange in 2000. In 2003 it acquired Puyuan, which was also based in Changsha and at that time was the second largest domestic mobile crane manufacturer. Following the acquisitions of Xin Huang Gong, CIFA, and Huatai Heavy Industry, a producer of bulk material conveying equipment in 2008, it entered into the earthmoving equipment sector, and also further broadened its product range. Now, Zoomlion has established itself as a full-line supplier with a diverse range of products.

Zoomlion has experienced very strong growth in recent years, and its performance would have been even better had it not been for the global financial crisis that struck during the fourth quarter of 2008. In 2009, sales amounted to RMB20.8 billion, an increase of 56 per cent over to 2008, and net profit was RMB2.4 billion. In the first nine months of 2010, the company saw an increase in sales of 61 per cent over the

same period the previous year, and at the same time recorded a remarkable growth of 77 per cent in net profit, to RMB3.1 billion, more than that achieved in the whole of 2009.

**Table 4. Zoomlion: Financial Highlights, 2007-2010
(RMB Million)**

	2007	2008	2009	2010*
Turnover				
– Concrete Machinery	3,509	4,682	7,157	10,744
– Cranes	4,206	6,237	8,298	8,203
– Environmental and Sanitation Equipment	564	871	1,230	1,251
– Road and Drilling Machinery	487	610	787	880
– Earthmoving Equipment	-	116	445	652
– Bulk Material Conveying Equipment	-	261	873	359
– Financial Leasing	14	136	397	653
– Others**	193	635	1,575	1,159
Total	8,973	13,548	20,762	23,901
Net Profit	1,437	1,553	2,419	3,064

* Nine months ending September

** Lorry loaders, reach stackers, rough terrain cranes, aerial working platforms and axles

Source: Company Information

The core products are in two categories, concrete machinery and cranes, including mobile and tower cranes, though the former accounts for over 45 per cent of total company revenues. In addition, Zoomlion intends to increase its market share in the earthmoving equipment sector. Its new facility in Weinan has now completed the first phase of construction and has begun volume production with an annual capacity of 10,000 excavators; this number will double after the completion of the second phase of construction by the end of 2012, although it must be said that output has remained very small indeed in the first nine months of 2010.

In its prospectus, Zoomlion has set itself the strategic goal to become the largest manufacturer of construction equipment in China, and one of the five leading suppliers in the world. It claims that it was already the second largest domestic manufacturer in terms of sales revenues in 2009, behind the Sany Group, which had a consolidated turnover of RMB21,519 million last year and is likely to see a further significant increase this year, primarily as a result of its much improved sales of hydraulic excavators. To achieve this ambitious and, to some, extremely challenging objective, it is vital for Zoomlion to receive the cash flow generated by its share offer, and then capitalise on follow-up investments.

Table 5. Zoomlion: Production by Product Type, 2007-2010*
(Units)

	2007	2008	2009	2010*
Concrete Machinery				
– Truck-mounted Pumps	1,186	939	1,812	2,551
– Towed Pumps	800	812	947	1,173
– Transit Trucks	966	1,587	3,220	4,506
– Mixing Plants	94	227	395	667
Cranes				
– Truck-mounted	4,323	4,872	7,804	7,672
– Crawler	118	319	182	222
– Tower	1,070	1,548	1,678	3,814
Environmental and Sanitation Equipment	1,643	2,471	3,215	3,268
Earthmoving Equipment				
– Hydraulic Excavators	-	30	602	1,112
– Crawler Dozers	-	225	325	395
Road Machinery	290	359	279	348
Rotary Rigs	87	103	142	169
Total	10,577	13,492	20,601	25,897

* Nine months ending September
Source: Company Information

With the funds raised from the flotation, Zoomlion plans to upgrade its production facilities and capacity in core component supply, improve its research facility, and invest in distribution, particularly its overseas network. It will build a production facility for mobile crane axles in Jinshi Hunan through an investment of HK\$4.7 billion, and will continue to construct the Weinan industrial park. As a part of its international strategy, it will establish an R&D centre in Senago, Italy for the most sophisticated products, such as all terrain cranes, crawler cranes, and aerial work platforms. Additionally, overseas distribution will be prioritised, at a cost of HK\$3.8 billion, to improve after-sales support and build a network covering at least 50 international cities in Singapore, India, Australia, the United Arab Emirates, South Africa, Italy, Russia, Brazil and the USA.

FINANCIAL RESULTS

THIRD QUARTER

DTCM

**Table 6. DTCM: Financial Highlights, Third Quarter, 2009-2010
(RMB Million)**

	3 Months Ending September			9 Months Ending September		
	2009	2010	%Change	2009	2010	%Change
Turnover	94.5	109.7	16	323.2	364.3	13
Operating Income (Loss)						
– Gross Income	31.4	16.6	-47	67.9	53.7	-21
– Tax, Costs and Depreciation	(22.2)	(26.5)	19	(71.9)	(78.6)	9
Total	9.1	(9.9)	-	(3.9)	(24.9)	-
Net Profit (Loss)	8.9	(10.1)	-	(2.9)	(24.8)	-

Source: Company Information

In comparison with other domestic manufacturers, Dingsheng Tiangong saw a rather modest growth in sales in this period, amounting to RMB364.3 million. The company has lagged behind the pace of market growth as a whole, although it saw accelerated sales in the third quarter. Sales of motor graders increased by 30 per cent to 550 units, and those of asphalt finishers grew by 50 per cent to 110 units, but the improvement in revenues proved to be slower than the development of sales, and the reported operating income fell. As a result, the company continues to make a financial loss.

In July 2010 the company issued a proposal to change from its existing manufacturing business into trading automobile vehicles (see our Market Report issued September 2010). This has not been finally approved by the relevant authorities, but is seen as part of the reason why the company has improved its profits even though it enjoyed improved sales.

HELI

Table 7. Heli: Financial Highlights, Third Quarter, 2009-2010
(RMB Million)

	3 Months Ending September			9 Months Ending September		
	2009	2010	%Change	2009	2010	% Change
Turnover	886.3	1,346.7	52	2,209.8	3,691.4	67
Operating Income (Loss)						
– Gross Income	155.1	252.9	63	336.4	726.7	116
– Tax, Costs and Depreciation	(117.2)	(145.3)	24	(289.4)	(385.5)	33
– Investment Earnings	-	0.5	-	-	1.8	-
Total	37.9	108.1	185	47.1	343.1	628
Net Profit	41.4	91.3	121	51.9	293.5	466

Source: Company Information

This leading forklift truck manufacturer has enjoyed excellent sales, which remained strong in the third quarter. For all three quarters the revenues year-on-year increased by two-thirds, with sales of forklift trucks amounting to 42,600 units, surpassing the full-year result of 2009 by 23 per cent. The much improved economies of scale resulted in a more than five-fold growth in operating income, and net profit saw an improvement of 466 per cent to RMB293.5 million.

NHL

**Table 8. NHL: Financial Highlights, Third Quarter, 2009-2010
(RMB Million)**

	3 Months Ending September			9 Months Ending September		
	2009	2010	% Change	2009	2010	% Change
Turnover	504.2	368.3	-27	1,249.7	1,255.9	-
Operating Income (Loss)						
– Gross Income	78.3	86.6	11	229.4	261.1	14
– Tax, Costs and Depreciation	(75.9)	(82.0)	8	(217.3)	(230.6)	6
– Investment Earnings	2.5	2.7	8	6.4	5.4	-16
Total	4.9	7.3	49	18.4	36.4	98
Net Profit	4.0	5.0	25	24.5	34.7	42

Source: Company Information

The dump truck manufacturer reported stable results for the nine months ending September, but suffered a drop in the third quarter due to the stagnation in sales of dump trucks. In 2009 it won a contract for 28 units of the Terex MT4400 model, with a value of \$US\$80 million, but delivery has been postponed to 2011 due to delays by the customer. Nevertheless, the company saw an improvement in operating income, and net profit increased by 42 per cent in the nine month period, while it has continued to invest in its new manufacturing facility for dump trucks.

SCMC

Table 9. SCMC: Financial Highlights, Third Quarter, 2009-2010
(RMB Million)

	3 Months Ending September			9 Months Ending September		
	2009	2010	% Change	2009	2010	% Change
Turnover	63.0	113.3	80	410.6	306.2	-25
Operating Income (Loss)						
– Gross Income	21.7	23.4	8	58.5	65.0	11
– Tax, Costs and Depreciation	(32.6)	(22.5)	-31	(67.9)	(73.7)	9
Total	(10.9)	1.0	-	(9.2)	(8.7)	-
Net Profit (Loss)	(8.2)	5.0	-	(5.6)	(1.4)	-

Source: Company Information

SCMC reported an 80 per cent growth in third quarter revenues, while the year-to-date results indicated a fall of 25 per cent. Sales of asphalt finishers, the key product that generates almost all the profit for the company, totalled 70 units in the nine months ending September. However, to generate sales, most transactions have been paid by acceptance bills, while to improve production the company has had to bear the increased costs of sourcing key components from foreign suppliers. As a result, the company has suffered pressure on its cash flow, although improved sales in the third quarter have reduced company's losses.

In November 2009, the company announced its intention to replace the existing manufacturing business with the mining operations held by its parent company. It failed, however, to gain approval from the relevant authorities within the required period and had to withdraw the proposal. It is likely to resubmit the proposal, and the company's existing business structure is unlikely to change in the near future.

XUANHUA

Xuanhua had lower sales in the third quarter, although it recorded a year-on-year growth of 28 per cent for the nine months ending September 2010. The year-to-date sales of crawler dozers amounted to 1,130 units, representing a growth of 20 per cent over 2009, but the increased sales did not bring about an improvement in operating margins. In fact, the company suffered a fall in operating income of 61 per cent, while net profit fell by 26 per cent, a fall that was offset by subsidies. Nevertheless, the company expects to achieve growth of 50-100 per cent in full-year net profits, after taking into account improved sales and also the trading of part of its shares in Zhonggong International.

Table 10. Xuanhua: Financial Highlights, Third Quarter 2009-2010
(RMB Million)

	3 Months Ending September			9 Months Ending September		
	2009	2010	% Change	2009	2010	% Change
Turnover	145.5	139.9	-4	418.1	535.7	28
Operating Income (Loss)						
– Gross Income	24.4	28.0	15	75.3	78.0	4
– Tax, Costs and Depreciation	(25.6)	(25.7)	-	(73.8)	(77.1)	4
– Investment Earnings	-	-	-	3.1	0.9	-71
Total	(1.2)	2.3	-	4.6	1.8	-61
Net Profit (Loss)	(1.3)	2.6	-	4.7	3.5	-26

Source: Company Information

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