



# more innovation in china

FROM THE BUSWORLD DRIVING SEAT



1.



2.



3.



4.



5.



6.

It never ceases to amaze regular visitors to Busworld Asia that the Chinese manufacturing industry is continuously developing new products and concepts. China was not immune to the global financial crisis in 2009, but the economy did not go into recession. Furthermore, the Government provided stimulus funding for 11 of the largest cities to buy up to 1,000 vehicles each, including buses, using advanced and alternative fuel systems.

1. Yutong's articulated hybrid bus.

2. A Huanghai city bus.

3. The FAW school bus.

4. One of the smallest Yutong models is this school bus.

5. A Bonluck tri-axle coach for the Australian market.

6. A series hybrid bus from the Times Electric Group.

Time flies, but it is still hard to believe that it was the Tenth edition of Busworld Asia, held in the New International Expo Center in the Pudong area of Shanghai from 6 to 8 May.

As always, Busworld Asia was well supported. There were 13 bus builders with 44 vehicles

between them. They were joined by a grand total of 155 exhibitors providing components, accessories and services to the manufacturing and operating industries.

Visitors came to Busworld Asia from 56 countries. Busworld's partners analysed visitor



1. A stylish city bus from Youngman.  
2. A parallel hybrid city bus from the Times Electric Group.

numbers carefully, finding that 37% were from the Shanghai area, while 52% came from other parts of China. The remaining 11% came from many parts of the world, principally other Asian countries, but also Europe, America, Oceania and Africa.

Strong competition amongst Chinese suppliers is pushing up standards and driving innovation. Bus and coach manufacturers from other parts of the world are increasingly looking to China as a source for supplies.

There were several interesting trends on display in Shanghai. Chinese authorities have evidently banned the use of double deck coaches on long distance motorway services. That sector of the market is likely to change because of the rapid development of high speed railways.

Domestic airlines will provide transport for premium customers, but even they will come under pressure from high speed rail for medium distances. Rail will probably cater in future for most of the long distance services, over 500km. Coaches will inevitably play a secondary role, operating shorter routes from the main rail-heads.

On the busiest services, operators still want to maximise passenger capacity. A number of manufacturers launched over-deckers, where the driver, and courier or co-driver, are situated in a separate compartment, beneath a full length main passenger deck. The concept has been offered by Van Hool in Europe for several years. It requires ingenuity on the part of de-

signers to achieve passenger-friendly layouts, especially the entrance and staircase.

China is investing heavily in alternative fuels and drive systems. Local manufacturers, universities and technical institutions are all working hard on new developments, and examples were on display at Busworld Asia.

Several manufacturers have fitted the Eaton parallel hybrid drive system, but local Chinese hybrid drives are now coming onto the market. Just as in Europe, there will not be a major swing to hybrid technology overnight. There will be several years of development and innovation to produce systems that are reliable, durable and economical.



Welcome to Busworld Asia.

The Beijing Olympics and the Shanghai World Expo encouraged the development of all-electric buses. They face a number of challenges. One is keeping down the weight of the batteries, so that passenger numbers are not restricted. Another is to obtain sufficient range for economic daily operation. In Shanghai, there are vehicles in service which take a fast charge whenever they stop to let passengers on and off, and also at terminals. A retractable boom on the roof connects with overhead charging points which provide fast boosts of electric current.

On a completely different note, some Chinese builders are now starting to introduce vehicles built specifically for carrying young children to and from school. Inspiration for the designers came from the traditional American school bus, with the driver sitting behind a front-mounted engine. At Busworld Shanghai, these

vehicles were painted in the same shade of yellow as their American counterparts, and also had extensive chromium plating.

The main Chinese cities are moving to Euro 4 engine emission standards, therefore several compatible power units were on display. Chinese makers can also offer engines that are fuelled by compressed natural gas, and in one or two cases, liquefied petroleum gas.

The larger manufacturers are all active in export markets. They can offer a very extensive range of products, but generally prefer selling standard vehicles in volume rather than single units.

The Chinese are generally still learning about parts and service support in export markets. It is much more easy to establish with local buses which return to the same depot each night. An initial stock of consignment parts can be replenished as and when they are used. Coaches are quite a different problem. They can travel hundreds of kilometres. If there is a breakdown, expenses can soon mount up, for instance, hiring other vehicles to take passengers on their journey and waiting for the delivery and fitment of replacement parts.

These are not insurmountable problems, but they are making the Chinese think more carefully about stepping up their efforts in areas like Western Europe, where their major competitors have well established parts and service networks, able to support buses and coaches. They will have to use Western European drivelines to meet regulations, but they will still need support.

It has been fascinating to see how the Chinese industry has developed over the ten editions of Busworld Asia. What will we be saying on the 20th anniversary?



Busworld Secretary General, Patrick Van Impe

# run up TO RUSSIA

The first edition of Busworld Russia will be held in the city of Nizhny Novgorod from 30 June to 2 July.

The latest production and shipment figures from the Russian industry are showing a distinct improvement over the same period last year.

The timing for this exhibition therefore looks ideal. A large number of Russian exhibitors will be attending, but there are also others from Belarus, Finland, France, Israel, Italy, Sweden, Turkey and Ukraine. More than half the buses in circulation in Russia are more than ten years old. Russian towns and cities are facing the same challenges as other parts of the world, with increasing congestion and pollution. Efficient, modern, transport systems are essential.

Nizhny Novgorod has a strong automotive tradition. It is the home of GAZ, and also the headquarters of the GAZ Group, which has five bus manufacturing subsidiaries.

Verband der Automobilindustrie, the manufacturers' trade association in Germany, is a very highly respected organisation, not just on behalf of its members, but for its understanding of global markets. For several years, VDA and its leading members have talked about the BRIC countries as having the greatest long term potential for growth. BRIC is an acronym for Brazil, Russia, India and China.



An interurban coach from the GoLAZ plant.



Russia is a target market for Otokar of Turkey with its modern range.

Busworld is the only global organisation specialising exclusively in exhibitions for the bus and coach industry. We have already become firmly established in China and India and our plans for Brazil will be released in another Newsletter in the very near future.

Russia offers a unique combination of opportunities and challenges. It is a major market which needs buses, because levels of car ownership are still relatively low. The climate creates unique challenges, ranging from the perishing cold of the north of the country to hot and arid deserts in Central Asia. There

is probably no such thing as a universal bus for Russia. The climate also plays havoc with roads, therefore buses have to tough and durable.

Russia is rich in mineral resources. Its long term future therefore looks sound. People have to be able to travel to work and for leisure. There must be opportunities for bus manufacturers and for the suppliers of components, accessories and services.

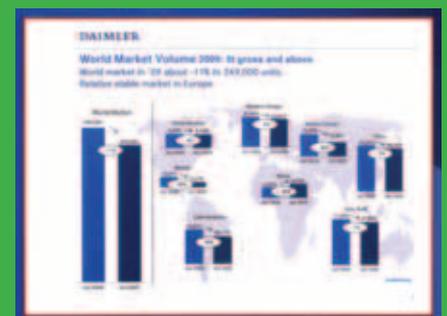
There will be a full report on Busworld Russia in the next Newsletter.

## DAIMLER'S GLOBAL MARKET VIEW

Daimler Buses recently released this chart on registrations of new buses and coaches, over 8 tonnes gross, around the world in 2009, compared with 2008. The chart excludes North American school buses, because they are special use vehicles.

The overall trend in 2009 was down 11%, compared with the previous year, but the decline, in percentage terms, was much less

than cars, vans and trucks. Within those numbers, city bus registrations remained almost unchanged, while interurban coaches were down around 10%. The largest fall was in high end luxury coaches. They are mainly owned by smaller companies, who usually take a more cautious outlook. Also, it has become more difficult for smaller companies to obtain bank finance.



# VISIT TO ZHENGZHOU YUTONG

During Busworld Asia, a delegation from Busworld got out of bed in Shanghai very early one morning to take the two-hour flight to Zhengzhou, the home city of Yutong.

The company is the largest builder in China, having produced more than 28,000 vehicles last year. Despite the global financial crisis, which probably had less of an impact on Chinese manufactures than those in other parts of the world, output in 2009 was up from 2008.

In global terms, Yutong is second only to Daimler which built more than 32,000 units in 2009.

Whereas the Daimler operations are on a number of sites around the world, much of the Yutong operation is in an enormous factory complex consisting of a series of large assembly halls. They cover 1.12 million square metres and there are plans to take over an adjacent industrial estate in 2012 for further expansion. The large assembly halls work to modern, highly disciplined, production standards, and meet ISO TS16949 quality standards.

Yutong builds a complete range of products, from 6-metre minibuses to 25-metre double articulated city buses. There is an enormous range of specifications, covering all market segments, also more specialised vehicles like double deck buses and airport apron buses. Yutong reckons that they have 98 different models within 25 product families, and that does not include a very extensive range of optional extra items.

It is widely accepted that manual workers are paid much less in China than in Western Europe. Rates in Zhengzhou are lower than Shanghai, at around 150 per month.

Even so, Yutong has invested heavily in modern plant and equipment. There has been major investment in electro-coating equipment, which protects chassis from corrosion, also full cathoretic dip anti-corrosion tanks, capable of taking body structures up to 15 metres long. According to Yutong, these facilities will enable its products to last three to four times longer than previously.

When you think about it, that actually raises a fundamental strategic question. Output from the Chinese industry, not just Yutong, has



1. In one of the final assembly halls.
2. On one of the chassis assembly lines.
3. A double deck city bus.
4. Vehicles of all sizes ready for delivery.

been growing steadily every year. It has been fuelled mainly from demand by domestic customers, with exports accounting for a relatively small percentage of output, probably no more than around 7-8%.

Until now, the Chinese authorities have placed a maximum age limit of eight years on the life of any bus or coach. Many of them have been worked so hard that this is not an unrealistic limit. There are rumours that some of the time-expired vehicles "disappear to the wild west" of China for further service, but that can only be for a fairly limited additional life.

If manufacturers like Yutong make vehicles that can last longer, and effective anti-corrosion systems are the main factor in achieving longer life, then there are two very important questions, as far as the Chinese domestic market is concerned.

The first is whether the authorities will permit such vehicles to remain in service beyond eight years, if the manufacturers and operators can demonstrate that they are fit for the purpose. That leads to the second issue. If they are, those manufacturers with effective anti-corrosion systems will prosper and those without will surely fail. Furthermore, a market which has been rising steadily, production will level out more quickly than previously forecast, creating further grief for smaller bus builders.

At Yutong, the Busworld party toured the main chassis building workshop. There were fourteen stages on the line, which moves every nine minutes. Therefore, the complete assembly process from start to finish took just over two hours. On an adjacent line for smaller chassis, each stage moved every six minutes.

Yutong employs around 7,000 people, giving a ratio of four vehicles per employee per annum. This appears to be extremely high, but remember that the range includes many smaller vehicles with quite simple specifications. High investment in tooling also helps, but, despite those qualifications, it is a most impressive achievement.

The Busworld party also toured one of the vast main assembly halls. It had four lines, each with positions for 18 vehicles which moved every half hour. They were surprised to find a complete mix of larger vehicles from the Yutong range, including hybrid buses and coaches.

Yutong also has extensive research and development facilities which incorporates some very advanced testing equipment. This includes a large multi-axle vibrating table on which all new prototypes are tested. One month on the table is equivalent to ten years of normal use.

Yutong is an active exporter, and opened a new service training centre in 2009. There has also been heavy investment in making spare parts readily available. The overall impression was that Yutong is a formidable manufacturer.

If you want to read more about Yutong, log on to [www.busandcoachbuyer.com](http://www.busandcoachbuyer.com) and register for free. In the archive facility, look for issue number 1075.

# asian coach week

## AWARDS

Every year, immediately before Busworld Asia, the Asian Coach Week tests are held adjacent to the exhibition halls. This year, exhibitors entered eight coaches and ten buses which were judged very thoroughly, over a two day period, by expert teams. They looked at performance, specifications, driver and passenger safety, and general construction. Scores were given for every feature in each of ten categories.

Three further prizes were awarded, namely the Bus Manufacturer of the Year, the Coach Manufacturer of the Year, and the Alternative Plaza Award for the most innovative product



*This Yutong ZK6122H9 coach was the winner of the Grand BAAV Coach Award.*

from a component manufacturer. For these three awards, the contestants had to submit detailed presentations explaining why they should win the award.

After all the judging was done and the scores were added, the prizes were handed out at the prestigious opening ceremony of Busworld Asia. This event is keenly supported by the contesting manufacturers who celebrate with great enthusiasm whenever they win an award.

This year, at Busworld Asia, the opening ceremony and the prize giving coincided with the launch of the Smart Move campaign in China. The prizes were handed out by Graham Smith, Vice Chairman of IRU, the partners of Busworld in the Smart Move campaign. The principal objective of Smart Move is to raise the political,



The Yutong fuel cell bus.



Yutong built this all-electrically driven coach for city sightseeing.



1.



2.



3.



4.

1. The well-equipped Zhongtong Navigator coach.
2. A Zhongtong parallel hybrid bus.
3. A city bus for Australia by Bonluck Bus.
4. A Changlong double deck city bus from Jingsu Alfa Bus.

legislative, media and public perception of the bus and coach industry and to gain a greater degree of support. Major nations are setting ambitious targets to reduce their carbon footprint. Buses and coaches have exceptionally low emissions per passenger per kilometre, therefore their use should be encouraged.

The winner of the Bus Manufacturer of the Year was Dandong Huanghai Automotive Co. Zhengzhou Yutong Bus won the Coach Manufacturer of the Year. DAF Diesel took the Alternative Plaza Award.

In the ten categories, there were three grand BAAV awards, for Coach, Mini/Midi Coach and

BRT. They were won respectively by Yutong, Zhongtong and Yutong.

There were two BAAV environmental awards. BAAV is the parent organisation of Busworld.

The Coach Award was won by Jiangsu Alfa Bus while the Bus Award was a tie between Yutong and Zhongtong. Yutong also won the BAAV Safety Award for its neat little school bus. There were two BAAV Comfort Awards. The Coach Award was won by Bon Luck and the Bus Award by Times Electric. This relatively new manufacturer is a subsidiary of China Southern Railways with extensive experience of electrical technology and advance drive

systems. They have used that experience to develop a range of city buses. The company also won the BAAV Innovation award for Bus, while the Innovation Award for Coach was yet another trophy for the Yutong boardroom.

## BUSWORLD KORTRIJK 2011

Mieke Glorieux, Director of Busworld Kortrijk, is delighted to report that, sixteen months before the 21st edition, bookings have already been received for 80% of the available space.

Mieke said: "The additional space at Busworld Kortrijk last year was completely filled. The large temporary hall worked very well. We anticipate further strong demand for 2011, and we plan to meet it by building a second temporary hall." If you want to book space for 2011, registration can be done on the Busworld website. The required password is bw2011.

## NEWSLETTER ON LINE

The Busworld Newsletter is now available on-line at [www.busworld.org](http://www.busworld.org). Alternatively, we can arrange to send it to you by e-mail. Please make your request to [mieke.glorieux@busworld.org](mailto:mieke.glorieux@busworld.org).