



# busworld newsletter



A convertible open top minicoach for sightseeing.



There were many component and service suppliers.



Hundreds of these Turkish built BredaMenaribus vehicles are in Istanbul.



One of the many minibuses. This was by Bur-Can of Ankara.

# busworld turkey WAS A GREAT SUCCESS

Busworld Turkey was held in two large halls of the Istanbul Expo Center from 24 to 27 April. It was the fifth edition of a very popular exhibition, organised in conjunction with Busworld's Turkish partner, HKF Trade Fairs. A grand total of 12,425 visitors came from no less than 84 countries. Of the total, 10,711, or 86%, were Turkish.

There was an impressive total of 248 exhibitors, making it an important international event and by far the largest of its kind in the region. Turkey has one of the fastest growing bus and coach industries in the world, with 172 of its manufacturers and component suppliers tak-

ing stands. The other 76 exhibitors came from countries as far afield as Canada, South Korea, China, Uzbekistan and neighbouring Iran. One of the great benefits of the Expo Center is its proximity to Istanbul's Ataturk International Airport. That helped to attract several

buying delegations, from countries like Bulgaria, Cameroon, Hungary, Iran, Lebanon, Morocco, Russia, Ukraine and Uzbekistan. The Turkish manufacturing industry had a record year in 2013, building 51,292 buses and coaches of all sizes. That was up from just

under 40,000 in 2012. The largest increase was in minibuses, and that was due to additional production of Ford Transit models for Europe.

In the important midibus sector, there were 5,197 vehicles built. Heavy buses and coaches accounted for 8,345, up from 6,427 in 2012. The largest producer, Mercedes-Benz, reached the capacity, with 4,001 units. That partly explains why capacity of the Hosedere plant is again been increased, closer to 5,000 per annum.

Sales in the Turkish market reached 16,546 units. Just over half of those were minibuses, but there were 3,882 large buses and coaches, an all time record. That was largely due to heavy investment in city buses, especially in Istanbul. The midibus and midicoach sector was also high, at 3,959 units. Turkey has required city buses to be accessible, ie with much of the floor only one step above the ground, since 2012. Turkey requires on Euro 5 emission standards. Euro 6 limits will apply from the start of 2016.

Turkish manufacturers supply many markets in Western Europe, so they are already competent with Euro 6 installations. However, they also have many neighbouring markets where refiners have not made the necessary investment to produce cleaner diesel. This means that they can also supply vehicles that comply with Euro 3 and Euro 4.



The Turkish industry makes a very wide variety of buses.

Demand for express and touring coaches in Turkey in 2013 was down a little, partly because express coaches are facing competition from low cost airlines. The general feeling was that the market will recover this year. The weaker exchange rate against Western European currencies is making Turkey a very attractive tourist destination. The city bus sector was strong last year, partly ahead of elections, and might have reached an all time high. There was plenty evidence on the streets of Istanbul that there had been major fleet replacement. The crowded city relies very heavily on buses for public transport. When there are several manufacturers in a country, competition creates innovation. They are always trying to keep one step ahead of

each other and that was clearly evident in Bus-world Turkey. In addition to the companies building larger buses and coaches, there is a thriving minibus industry. There were several exhibitors which specialise in converting panel vans. The range of applications was quite amazing, from little buses that could negotiate narrow streets in old urban centres to superbly equipped small coaches with large reclining seats and luxurious features normally only found in the most expensive cars. These manufacturers and convertors rely on a vibrant components industry working to high quality standards. They are not only supplying the domestic industry, but are becoming an increasingly strong force internationally.

## Landmark celebration

Since it first started 46 years ago, Mercedes-Benz has built 70,000 buses and coaches in Turkey. Initially the factory was in an industrial area quite near the centre of Istanbul, but all

production is now in a very modern facility at Hosedere, to the west of the city. When the first part of the plant opened in 1995, Hosedere was almost alone in the countryside, but the city has come closer and closer!

The 70,000th vehicle was a Travego high-deck luxury coach. It was a talking point and attracted a great deal of attention. Latif Karaali, the co-owner of a Mercedes-Benz Türk dealership loaned his impressive collection of tickets and ticket wallets from coach fleets, past and present, all over Turkey.

They formed a vinyl display that adorned the main side panels of the coach. Some of the tickets displayed older Mercedes-Benz models that have long since gone out of production, but many visitors, especially from older generations, studied them closely. The ticket display gave an important message and in a unique way that has probably not been done previously. Although many of the operators have changed over time, many others are still on the road, and Mercedes-Benz has been market leader throughout that time.



Rainer Genes, President and CEO of Mercedes-Benz Türk.

The display formed an historic link between the company, its customers and the express coach industry.



Hundreds of travel tickets on the 70,000th Mercedes-Benz from Turkey.

# What follows Euro-6?

Cummins had a display of diesel and gas engines at Busworld Turkey, all complying with Euro 6 regulations. Steve Nendick, Communications Director for Europe, Middle East, Africa and CIS, and Ashley Watton, Bus Engine Sales Leader for Europe, talked about their business.

Sales of Cummins engines into the European bus market reached the highest level to date in 2013, with more than 6,500 units. Of those, 3,000 were supplied to Turkey for local and export use. Their engines were installed in quite a number of the vehicles on view in Busworld Turkey.

There seems to be a general view among manufacturers that there will not be a Euro 7. They have squeezed just about every last drop of emissions out of their engines to comply with Euro 6, but nobody believes that the legislators will pack up and go home.

Cummins said that its Euro 6 ISB diesel engines used a combination of Exhaust Gas Recirculation, Selective Catalytic Reduction, Variable Geometry Turbocharger and a Diesel Particulate Filter to meet the ultra-low levels of emissions. Their patented design uses Copper Zeolite technology for very high conversion efficiency, even at low temperatures. This can be a problem with buses running on rural services in cold climates.

Cummins believes that future legislation will target fuel consumption and CO2 emissions. Already, by the end of 2016, there will be more stringent monitoring of urea quality and consumption, more stringent on-board diagnostic thresholds for NOx and the need to demonstrate compliance to In Use Performance Ratio (IUPR) limits that require the on-board diagnostic system to operate regularly.

In their view, air quality improvements will be assessed and if the expected improvements are achieved, Euro 6 should be the end of emissions regulations on NOx and particulate matter.

There are many challenges in reducing CO2 emissions such as the wide variety of vehicles, duty cycles, vehicle weights, the influence of drivers, test procedures, SCR heat requirements, and compliance/enforcement.

The benefits of engine based CO2 improvements become even more effective on buses that are working on urban duty cycles.



Cummins showed diesel and gas Euro 6 engines.

Cummins has drawn up a list of around a dozen potential fuel savings from development of engine-based technology. Some will contribute only minor savings, but others could be quite significant. When all are combined, it could be possible to reach savings of up to 20% in fuel consumption.

Among the examples are engine down-speeding, high efficiency NOx after-treatment, turbo machinery efficiency, air compressors, friction reduction, reduced heat transfer, reduced engine back-pressure and variable flow oil and water pumps. Larger savings can come from waste heat recovery and by active powertrain optimisation.

Hybrid drive systems are already demonstrating significant savings in fuel consumption, and therefore reductions in emissions. Further improvements can be expected. Electrically driven auxiliaries like cooling fans and power steering pumps also help to save fuel consumption.

Cummins believes that there will be a general move away from fossil fuels over the next 40 years, but also a decision by society as to where these increasingly rare resources will be applied. The company says that it will stay focussed on improving and refining clean diesel technology to make the best use of the resources that are left. There is still a lot more to come from the diesel engine!

## TCV up and running

Two years ago, at Busworld Turkey, TCV (Turkish Commercial Vehicles) launched two prototype low floor single deck city buses. They have now gone into volume production in a rather unusual way. TCV is associated with the Bozankaya Group, a Turkish company whose activities include the supply of structures to MAN in Germany and Turkey

TCV's low floor buses are assembled, using stainless steel, in part of MAN's bus and coach factory in Ankara. They use MAN diesel and gas engines and some other major components. MAN does not view TCV buses as competitive with its own, believing that they appeal to more budget-conscious customers.

TCV said that there was a lot of interest in gas fuelled buses, not so much for environmental reasons, but because the fuel was much more attractively priced than diesel.



The TCV Karat with a diesel engine.

## Otokar's export success

If there had been a prize for the best laid out stand in Busworld Turkey, Otokar would surely have been a strong candidate. In one part of the long rectangular site, midi and full size coaches were parked in echelon in a mock-up of a coach station, beneath departure bay numbers. At the other end, two buses were parked either side on a small square that also acted as a hospitality area.

Basri Acgul, Assistant General Manager, said that Otokar grew its bus and coach turnover in 2013 by 40%, with exports valued at around EUR90m. Otokar sold buses and coaches in around 40 countries, mainly in Europe.

Otokar was very proud that the Turkish Ministry of Science, Industry and Technology had nominated the company as "The Most Successful Research and Development Centre" in the country.

Otokar also makes a wide range of military vehicles and has impressive test facilities that can simulate the most punishing of all-terrain operation, also extremes of climate. Highly sophisticated test rigs severely punish vehicles and find any weakness long before failure might occur in normal use.

It is reassuring to customers that these facilities and engineering expertise are available to the extensive bus and coach range.



The Doruk low entry midibus from Otokar sells in Europe as the Vectio.



The Otokar Sultan with a wheelchair lift.

## Anadolu Isuzu

Anadolu Isuzu is best known for its popular range of midibuses and midicoaches. They are in use all over Turkey, on a wide range of duties, from rural transport to private charter, and are exported to many other markets.

Recently, the company has responded to demand for accessible city buses. It developed the popular range of Citibus low entry midibuses, with the option of diesel or gas power, but sprang a complete surprise at Busworld Turkey with the new Citiport.

An Anadolu Isuzu badge on the front panel immediately caught the attention. It transpired that there was not a single Isuzu part on the vehicle! The company had to use heavier components than available from Isuzu, and therefore opted for a Cummins Euro 6 engine, mounted offset and in line in the offside rear corner, with a ZF fully automatic gearbox and ZF axles.

The layout enabled three double width doors, including one behind the rear axle. An unusual but attractive styling feature of this well-

presented bus was the waist rail, which dropped down between the axles, letting more light into the interior.



The new low floor Citiport bus from Anadolu Isuzu.

## From the silk road to Istanbul

Samarkand is a fabled city, sitting on the Silk Road from China. It lies in Uzbekistan, which has long had trading links with Turkey.

The Samarkand Automobile Factory trades as SamAuto and brought two vehicles to Busworld Turkey. The HD41 was a 6.92 metre midibus with a high floor, front mounted Isuzu Euro 2 engine, also gearbox and axles from Isuzu. The company currently builds around 1,000 of these vehicles each year.

Like many other countries, Uzbekistan is interested in more accessible buses. SamAuto showed the LE60, an 8 metre low entry midibus. It had a Cummins 4-cylinder Euro 4 engine, mounted at the rear, and an Allison fully automatic gearbox. This model is due to go into volume production shortly.



The low entry midibus from Samarkand.

## Unique Güleryüz products

Güleryüz has a modern factory in Bursa making a wide range, principally the popular Cobra city bus. These include the only double deck buses built in Turkey. One of the exhibits was a vehicle with a closed top in the col-

ours of Istanbul, but the company has also established a niche market for open top models for sightseeing.

Quite a number are in uses in Istanbul including some on the only service crossing one of the Bosphorus bridges, linking Europe and Asia. It is a very interesting and enjoyable way to get one's bearing and see the sights of the city.



A Güleryüz double deck bus for service in Istanbul.

## AKIA makes its debut

One can always rely on Busworld to produce surprises, and Busworld Turkey lived up to that reputation. At a time when the general trend

in the industry is towards consolidation, it is rare to find a completely new manufacturer.

Akia has been building buses for several years in Tabriz in Northern Iran. The owner decided to establish a factory in the Turkish automotive centre of Bursa to build a range

of low floor city buses. There were two examples of the full low floor Ultra 12, one with a diesel engine and the other with a gas engine, both Cummins. There was also an Ultra 9 low floor midibus, with a smaller Cummins diesel unit.

These are interesting times politically as far as Iran is concerned. It would appear that there might well be some easing of sanctions and they could apply to the automotive industry. It would be good to have a more level playing field, because, while Western manufacturers have complied with sanctions, those from other parts of the world have not recognised them.

The Akia team was wanting to attract customers for the products of its Turkish factory, but there must be logic in developing and building a modern city bus range that could also be built in Iran, if and when the situation changes.



The new low floor Ultra bus built in Turkey.

## New Karsan range ready

At Busworld Kortrijk, last October, Karsan showed three interesting new vehicles. One was the little Jest, a minibus with a front mounted engine and a low floor.

There were also two mid-sized vehicles with an ingenious common platform, even though one was a low entry city bus and the other a midicoach. Both had Fiat Power Train engines mounted transversely at the rear and Allison automatic gearboxes. This arrangement enabled the rear axle to be located nearer the rear of the vehicle, compared with layouts that use the engine and gearbox mounted in line at the rear.

The midibus is now known as the Atak. The word means the same in English and Turkish. It has its floor only one step above the ground and is ideal for routes that do not require full size buses.

The coach has become the Star, with the same low frame, but then a second frame mounted above it, creating a full length flat floor with space beneath for through luggage lockers that can be reached from each side of the vehicle. Karsan said that both models were ready to go into volume production.

Karsan also has an agreement to build the full range of BredaMenarinibus vehicles in Turkey, including midibuses, full size single deck and articulated models. They can have either diesel or CNG engines. Large numbers were in service in Istanbul, with many running on the Bus Rapid Transit routes.



Karsan's Atak low entry midibus.



The neat little Jest low floor minibus.

## Iranian update

The east of Turkey borders onto Iran. Two years ago, Oghab, one of Iran's leading bus and coach bodybuilders, booked a stand at Busworld Turkey but its vehicles could not get through that border. This time, fortunately, the company was successful.

There was one coach on Oghab's stand, a full size high deck luxury model with only 25 seats. They were large and very luxurious, with a single row one side of the aisle and twin seats on the other.

According to a company spokesman, there is strong demand for intercity express coaches in Iran and there are customers who are prepared to pay a premium fare for much higher standards of comfort. He said that Oghab could also build a range of lower deck coaches with more seats, and city buses. Although the sanctions had created many problems, Oghab was hopeful of selling its premium products into neighbouring markets.

## Busworld Kiev postponed

Busworld regrets that, because of the very difficult political situation, the proposed Busworld Kiev has been postponed for the foreseeable future.

Mieke Glorieux, Director of Busworld, said: "The safety and security of our partners, exhibitors, visitors and staff is always of paramount importance. We will keep the situation in Ukraine under review and hope that, for all concerned, the country can soon return to normal."

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