

Distant operator replacing driver

BelAZ manufactures dump truck able to operate without a driver

By Vladimir Yakovlev

Is it easy to drive a BelAZ dump truck loaded with 130 tonnes of ore or coal? Some say that it's no harder than driving a passenger car... but it's hardly true. I know from experience, having tried to drive a giant truck made by Zhodino's Belarusian Automobile Works some time ago.

You take an almost vertical ladder into the cabin, like climbing aboard a ship. You feel as if you're two storeys up. Meanwhile, the accelerator and brake produce dramatic results. It's no simple task to control a truck which is many metres long. Moreover, I was

only driving on a track, without obstacles or other traffic. You can imagine the truck at work in a pit, working in formation with others, under the scoop of an excavator. It's like a weight-lifter — straining and moaning. I realised immediately that driving a truck will never be my profession.

Not long ago, I visited BelAZ once again to try my hand at controlling a giant truck. This time, I did so remotely, via three paddles and a dashboard of dozens of indicators. On touching the handbrake, I saw my three monitors spring to life, showing a huge 130 tonne dump truck 500m away, accelerat-



Operator controls mining dump truck remotely

ing towards me. I felt like I was controlling a remote toy car — except that this was no game.

“To manage the dump truck remotely, we've produced an operator station whose display board matches that of the cabin. Moreover, it has a wheel and several displays to assess the road situation. It uses audio and wireless data transfer systems and is equipped with additional video surveillance,” explains the Head of the Electronic Management System Bureau of the Belarusian Automobile Works' Chief Designer, Yevgeny Guchek. “Special attention has also been paid to safety, as

the data management system can fail or connections can be broken. In such a case, the whole system should shut off to bring the vehicle to a halt; an emergency module governs this.”

This might seem rather obvious, as plenty of mass produced passenger cars are equipped with an automated management system. However, different equipment is needed to operate a giant dump truck. The remote BelAZ dump truck was assembled 18 months ago, with its advanced model recently shown at Zhodino's annual international scientific and practical conference, to great

interest. It's hoped that orders will flood in by the end of the year.

Why are such 'toys' necessary in the real world? Of course, an unmanned vehicle can work in environments which would potentially endanger a driver — and thus the vehicle. Naturally, many pits are located deep underground, filled with hazardous gases and thick dust. Moreover, extraction of mineral resources rises globally each year, while there is a shortage of qualified drivers. Pits also tend to be built far from towns, so drivers need to be brought in, with comfortable accommodation created at

great cost.

Engineers continue to work to improve BelAZ vehicles, with complete automation planned for mineral resource extraction and transportation. “Like our rivals, we're working intensively to create a smart dump truck,” explains BelAZ Chief Designer, Oleg Stepuk. “We aim not simply to ensure operation of a dump truck or loader but to create software able to make decisions for various situations. The 'driver' would be a dispatcher-controller able to remotely control the vehicle from hundreds of kilometres away, intervening only in cases of emergency.”

Fulfilling real contracts

By Olga Belova

Datong Electric Locomotive Co., Ltd. of CNR manufactures first electric locomotive for Belarusian Railways

At present, the electric locomotive is undergoing its first stage of acceptance trials in China — to be finished in March. “After supplying the first batch of rolling stock to Belarusian Railways, the second stage of acceptance tests will be conducted,” notes Belarusian Railways' Press Service.

Trial tests have been conducted by the manufacturing enterprise, involving accredited laboratories: the China Railway Scientific Research Institute, Belarusian Railways' Design and Engineering Centre, the Belarusian State University of Transport and the Baltic Testing Centre. The electric locomotive is being tested for compliance with technical conditions and design documentation: security of movement and electromagnetic compatibility, as well as fire, functional, ecological mechanical and electrical security.

Belarusian Railways has signed a contract with China National Electric Import and Export Corporation (CUEC) and with Datong Electric Locomotive Co., Ltd. of CNR for 12 mainline freight locomotives, paid for with a loan from the Export-Import Bank of China.



Seamstress Valentina Vishnevskaya works at Milavitsa JV — Europe's largest manufacturer of lingerie

Light industry's turn for further development

Sewing holding being set up at Milavitsa

By Marina Nosova

According to Gennady Vyrko, the Chairman of Bellegprom Concern, the holding is based on the enterprise's commodity distribution network: around 450 stores in various countries — primarily Russia. “The establishment of the holding ensures transparency of sales and an exact inventory, us-

ing bar-codes,” he explains.

According to Mr. Vyrko, the holding will sell produce under the Milavitsa brand, as well as knitwear, outdoor clothes and men's underwear. “The collections will be united under a single style,” he notes, explaining that plans for the holding should be ready by April 1st. He adds that holdings are planned for

the textile, knitwear and footwear branches, with the footwear holding proposal to be ready by March 1st. The aim is to raise footwear production volumes 2.5-fold (set by the light industry development programme). He notes that ‘the task has been set to raise the share of domestically manufactured footwear to a reasonable limit.’

Direct ties definitely bring benefits

By Grigory Alenichev

Belarus and Turkey to set up working party to support small and medium-sized entrepreneurship

The Economy Ministry's Entrepreneurship Department and the Small and Medium Industry Development Organisation (KOSGEB) of Turkey have signed a protocol on co-operation.

The document envisages the creation of a Belarusian-Turkish working group to develop and support small and medium-sized entrepreneurship and to share information on state policy regarding entrepreneurship. The exchange of specialised data will be supported also, aiding direct contacts between the business circles of Belarus and Turkey.

The document was signed during a visit by the Economy Ministry to Turkey. The Belarusian delegation met leaders and experts from the Small and Medium Industry Development Organisation (KOSGEB) of the Republic of Turkey, discussing state support of small and medium-sized enterprises. The meeting also tackled how joint mechanisms could be used to encourage business in Belarus and Turkey, developing bilateral trade-economic and investment collaboration.

The Belarusian delegation plans to visit industrial zones, technoparks and business incubators in Ankara and Istanbul.