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Alstom and Transmashholding present the EP20 locomotive, first production resulting from their strategic partnership

Alstom Transport and Transmashholding (TMH) have unveiled the first joint production resulting from the strategic partnership established in Russia between the two companies: an electric locomotive for EP20 passenger trains. The locomotive's development by a newly created joint venture – the "TRtrans" engineering centre – took just seven months. This first production will be followed in a few months by another electric locomotive: the 2ES5 locomotive designed for freight transport. Since their alliance in 2008, the two partners have received orders for a total of 700 locomotives for Russian Railways (RZD) and Kazakhstan Railways (KTZ) totalling €3.5 billion. The EP20 locomotive is presented at Expo 1520, held on 6-9 September in Moscow.

The EP20's challenge: transport passengers at 200 km/h in temperatures reaching minus 50° C

This new-generation locomotive, ordered by Russian Railways in view of the 2014 Olympic Games in Sochi, was inspired by the latest Alstom locomotive – the Prima II –, and by Russian models designed and manufactured by TMH. Yet the EP20 is not a simple adaptation of existing models. It was designed specifically for the CIS market and features the very latest in technology. The EP20 is the first triple-bogie passenger locomotive (BoBoBo) capable of operating at speeds of up to 200 km/h on both voltage systems in use in Russia. Its asynchronous motor is rated at 7200 kW, making the EP20 one of the world's most powerful passenger train locomotives.

It was winterised for operation under temperatures as low as minus 50° C, with components suitable for extreme conditions and preheating systems for its sensitive equipment.

The EP20 is also the first Russian locomotive equipped with a computerised cab, including driving aids, remote service diagnosis, remote maintenance and centralised data. The locomotive's highly efficient traction system also allows for a significant reduction in electricity consumption.

EP20: the product of a day-to-day partnership

The result of a unique industrial and technical organisation, the EP20 was developed by 150 "TRtrans" engineers at TMH's largest locomotive manufacturing facility located in Novochoerkassk. The engineers come from the two partner companies. They are supported by Alstom teams from its plants in Belfort, Tarbes, Le Creusot, Ornans and Villeurbanne in France and Charleroi in Belgium. The Alstom teams provide expertise for all high voltage electrical equipment, as well as the command control systems for traction drives. The TMH teams, in turn, contribute their unmatched know-how in the area of "winterisation" and their knowledge of the constraints and standards governing the 1520-mm track gauge market in Russia and the CIS.

Alstom's facilities at Tarbes and Belfort will provide all high voltage electrical equipment (motor units, auxiliary units, circuit breakers and the main transformer), as well as command control systems for the traction drives for the first 36 EP20 locomotives, scheduled for delivery to RZD between 2012 and 2013. The other components (including the bogies) will be produced by TMH and the locomotives will be assembled at its plant in Novochoerkassk. The production of the first EP20 enabled the two companies to work together to optimise the industrial process, standardise operations and refine continuous improvement methods and tools. .

The key components for the next 164 EP20s will be manufactured by a second joint venture, called RailComp. Under an agreement signed in 2009 between Alstom and TMH, this company is scheduled to be formed at the end of 2011. The first RailComp plant, which will also be installed at the Novochoerkassk site, will produce traction drives for the EP20, among others, starting in 2014. Assembly of the locomotive will then continue at the Nevz plant, which will gradually benefit from joint progress made on the project.

EP20: the first product in a range for the 1520-mm gauge market

The EP20 locomotive announces the gradual construction of a range of common products. It will be followed by the 2ES5 electric freight locomotive, for which 200 orders have already been placed by RZD. Moreover, in Kazakhstan, the partners will deliver 295 electric passenger and freight locomotives to Kazakhstan Railways (KTZ) over the coming years. They will be assembled in a plant in Kazakhstan's capital, Astana, which will be operational in 2012.

About Alstom Transport

With a focus on sustainable transport, Alstom Transport develops and offers the most complete range of systems, equipment and services on the rail market. The company is capable of managing entire transport systems, including rolling stock, signalling and infrastructure, and also provides complete turnkey solutions. In 2010-2011, Alstom Transport recorded sales of €5.6 billion. It has a presence in over 60 countries and employs 25,500 people.

About Transmashholding

Transmashholding is Russia's leading railway equipment manufacturer. Its products include electric and diesel locomotives, converters, freight and passenger cars, suburban and metro cars, diesel engines for locomotives and diesel generators. TMH posted sales of €2.2 billion in 2010. The company employs over 54,000 workers.

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