

Alstom has successfully equipped 59 electric trains with its proven on-board signalling solution for MAV-START

- **A Premiere for Hungary: marking the first ever retrofitting of electric trains with an ETCS 2 train control system**
- **Alstom successfully completed in October the project involving the installation of the ETCS Level 2 onboard system on a total of 59 Flirt electric trains**
- **Alstom's digital control solution will allow MÁV-START's Flirt electric trains to travel safer and faster with a train control system that meets European standards**

Budapest, 25 January 2024 – Alstom, global leader in smart and sustainable mobility, has achieved a significant milestone in its operation in Hungary. The fleet modernization project of MÁV-START's Flirt-type electric trains with European Train Control System (ETCS) Level 2 system has been successfully completed in October 2023, with the retrofitting designed to enhance the speed and safety of the trains.

Thanks to Alstom's proven ETCS Level 2 train control equipment, which meets the strict European requirements, all the 59 retrofitted units can travel with increased safety and higher speeds where the tracks allow. The newly installed state-of-the-art equipment has obtained the market authorisation and the trains have resumed passenger services. The retrofitting has been successfully completed in December 2023, with the completion of a certification procedure involving extensive testing and verifications.

"Modernising the 59 FLIRT vehicles has been an important part of the realization of the rolling stock development strategy of MÁV-START Zrt. coming effect in recent years. With the installation of ETCS L2 system on these train, altogether 123 FLIRT EMUs and 40 KISS EMUs are now equipped with the most modern railway safety system, so we managed to move to a higher level in terms of traffic safety. The project was extremely important for MÁV-START Zrt. because, in addition to increasing the safety of rail transport, it also opens opportunities for a more favourable and fast travelling on our trains, so the biggest winners of the developments will definitely be our passengers." – emphasized Dr. László Mosóczy, the CEO of MÁV-START Zrt.

"As a company committed to the Hungarian railway, we were happy to participate in making MÁV-START's assemblies safer. The modernization process, which took place according to a predefined, strict schedule, was completed on time. Bearing in mind the needs of the customer, the trains were taken out of passenger traffic for the shortest possible time, in line with the already existing maintenance schedule. The on-board equipment and systems offered by Alstom provide the current state-of-the-art solution among on-board train control devices existing in the market" – emphasized Gáspár Balázs, CEO of Alstom Transport Hungary Zrt.

The primary purpose of the European Train Control System (ETCS) is to monitor the movement of trains and enhance the safety of rail traffic in various operational situations. The system continuously calculates warning, operating and emergency braking speed profiles, and monitors the authorized speed for both the train and the track. In full supervision mode, it is practically impossible for a driver to

mistakenly ignore a red warning signal. The enhanced ETCS Level 2 provides continuous monitoring via GSM-R (the rail version of GSM).

Ultimately, ETCS Level 2 system improves traffic efficiency by allowing upgraded trains to circulate at higher speeds on lines where the track conditions allow, such as the Budapest-Székesfehérvár line, thus increasing the speed to a maximum of 160 km/h, compared to the previous speed of 120 km/h.

Alstom offers leading expertise in mainline signaling standards with over 120 ETCS projects worldwide, 19,200 onboard units and 13,300 km of equipped lines. In Europe, Alstom delivered 70% of ETCS-equipped trains in service.

Alstom™ is a protected trademark of the Alstom Group.

About Alstom

Alstom commits to contribute to a low carbon future by developing and promoting innovative and sustainable transportation solutions that people enjoy riding. From high-speed trains, metros, monorails, trams, to turnkey systems, services, infrastructure, signalling and digital mobility, Alstom offers its diverse customers the broadest portfolio in the industry. With its presence in 63 countries and a talent base of over 80,000 people from 175 nationalities, the company focuses its design, innovation, and project management skills to where mobility solutions are needed most. Listed in France, Alstom generated revenues of €16.5 billion for the fiscal year ending on 31 March 2023.

For more information, please visit www.alstom.com.

Contacts

Press:

Péter ALBERT – Tel.: +36 20 522 8090

peter.albert@alstomgroup.com