

Alstom and Forsee Power announce collaboration to supply batteries for Aptis electric buses

18 July 2018 - Alstom has selected the French battery manufacturer Forsee Power to equip the Aptis electric buses, scheduled for series delivery from 2019 onwards. The vehicles will be equipped with NMC (Nickel Manganese Cobalt Oxide) Li-ion battery technology as a standard feature.

Forsee Power has been chosen for its advanced technology in terms of yield and density, its competitiveness and its ability to provide a recyclable product, from collection to the re-use of cells. Alstom is thus betting on a reliable solution and close partnership with a flagship of French technology.

Alstom and Forsee Power have worked together to define the most suitable product for Aptis, while retaining the vehicle's openness to different battery technologies and charging speeds. The vehicle's design, with most of its equipment on the roof, coupled with the modularity of the ZEN35 battery packs, give Aptis the greatest range flexibility when compared to other vehicles in its category. Alstom has developed precise simulation tools to establish the onboard energy required by operators and thus design the vehicle most suited to the requirements of each line (with range per charge from 150km to over 250km).

Alstom and Forsee Power are also collaborating on the best way to monitor battery use in real time, thereby optimising usage cycles and thus battery life expectancy.

Finally, Alstom has developed long-term battery leasing solutions that allow municipalities to reduce the financial impact of purchasing electric buses by spreading the cost of the batteries over the lifespan of the vehicle¹.

Seven of Alstom's sites in France are involved in the design and manufacture of Aptis: Duppigheim for the overall engineering, bodywork, testing and certification, Saint-Ouen for the system integration, Tarbes for the traction, Ornans for the engines, Villeurbanne for the electronic components of the traction chain and Reichshoffen for the manufacture of the central passenger module, final assembly and in-series tests. Finally, the Alstom site of Vitrolles is responsible for developing one of the charging solutions (SRS).

¹ A 20-year lifespan, longer than the lifespan of other electric buses, thanks to the structure of the vehicle and its electrical components derived from trams.

About Alstom

As a promoter of sustainable mobility, Alstom develops and markets systems, equipment and services for the transport sector. Alstom offers a complete range of solutions (from high-speed trains to metros, tramways and e-buses), passenger solutions, customised services (maintenance, modernisation), infrastructure, signalling and digital mobility solutions. Alstom is a world leader in integrated transport systems. The company recorded sales of €8.0 billion and booked €7.2 billion of orders in the 2017/18 fiscal year. Headquartered in France, Alstom is present in over 60 countries and employs 34,500 people.

www.alstom.com

About Forsee Power

Forsee Power is an industrial Group specializing in smart battery systems for electric transport (road, rail, marine) as well as portable and mobile equipment (scooter, medtech, robotics).

As a major commercial and industrial player in Europe, China and North America, the Group designs, assembles and supplies energy management systems based on the most robust cells on the market as well as provides installation, commissioning and on-site or remote maintenance. With its modular solutions, Forsee Power guarantees that customers buying its batteries enjoy security, energy efficiency, thermal management, long-term reliability and long working life. The Group also offers financing solutions (battery rental) through its participation in NEoT Capital and second life solutions for transport batteries.

In March 2018, the Group announced the opening of a new industrial site in France in the summer. This new site will enable Forsee Power to produce 2,500 bus batteries per year in 2019 and will employ over 300 people by 2021.

www.forseepower.com, [@ForseePower](https://twitter.com/ForseePower)

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