HIGH QUALITY MAINTENANCE
FOR A RELIABLE SERVICE
ALSTOM, A MAINTENANCE PARTNER COMMITTED TO YOUR SUCCESS

The success of your business and the satisfaction of your customers are linked to the reliability of your trains. Whatever the rolling stock, the need remains the same: to have safe and reliable trains that are available throughout their lifecycle and that adhere to their programmed maintenance budget.

EXPERTISE, RELIABILITY, FLEXIBILITY

If the quality of the rolling stock’s technology plays a key role in determining the initial acquisition, it’s the quality of the maintenance that provides the best assurance for fleet longevity. Preventive management specifically adapted to trains can maintain their peak performance.

As an operator, you want to focus on your core activity, and be able to rely on a specialist for maintenance. Much more than simple technical support, Alstom offers a privileged partnership tailored to your needs – for a limited time or for the full life of your train – to optimise the performance of your fleet.

Whether you have the human resources required to maintain your rolling stock in-house or you wish to partially or totally externalise this activity, Alstom has the expertise necessary. Our experience as manufacturers, enriched by two decades of maintenance work in close collaboration with operators, has given us the capability to work on all types of rolling stock worldwide.

We assure the success of these long-term partnerships by responding to our customers’ operational, financial and technical constraints with efficient and flexible solutions.
Thanks to the quality of our logistics chain and our unparalleled experience in this field, we are able to offer a full range of maintenance. The three different programmes we offer address the needs of all rail operations and can be tailored to your specific needs.

The “franchise” offer
If you have your own human resources and equipment and wish to keep them in-house, the franchise offer is the best option for you. Alstom manages the maintenance operations in close coordination with your teams, supplying spare parts and bringing advice, expertise, training and process optimisation.

The “technical maintenance” offer
If you opt to externalise your technical maintenance, Alstom offers a maintenance service tailored to your needs, including providing all the maintenance personnel required: engineers, technicians and highly trained workers.

The “full maintenance” offer
If you wish to sub-contract the full maintenance of your trains and the relevant technical support as well, Alstom takes on the maintenance, cleaning and complete train preparation, keeping your fleet perfectly operational.

Whichever option you choose, and whoever is the manufacturer of the trains to be maintained, an optimal level of availability and performance is assured, reducing risks and guaranteeing a powerful means of keeping costs in check. This allows to concentrate on your core activity.

\[25\%\] of the trains that we service were built by other manufacturers.
AN UNSURPASSED RETURN ON EXPERIENCE FOR INCREASED SERVICEABILITY

Maintenance is a core activity at Alstom, representing 30% of our business. As part of the Alstom group, our teams profit from returns on experience from our experts in nuclear power station maintenance, a sector whose requirements are as demanding as those of the rail industry. To continuously improve our capabilities and guarantee the quality of our services, Alstom Transport has set up a dedicated structure to draw on its experience in the field. From our experience in maintenance to train design, from one project to another, from the projects to the global process, everything is studied, reviewed and compared to assure constant excellence and improvement of customer service. After 20 years in maintenance operations, working in close collaboration with rail operators of all types and in highly varied environments, Alstom provides the solutions that are best suited to the needs and requirements of our customers in a “win/win” philosophy.

A DAILY PARTNER FOR GLOBAL, LONG-TERM PERFORMANCE

Reliability and flexibility: these are the commitments that Alstom undertakes for operators worldwide. Much more than simple subcontracting, our maintenance missions are nothing less than a constant partnership, firmly based on local operations. In our heaviest maintenance operations, Alstom guarantees an engineer’s presence at the heart of the fleet control centre 24 hours a day in order to improve reactivity in preventive train management and the fleet’s full availability.

Mindful of performance criteria and the necessity of optimising operator’s long-term investments, Alstom experts offer customers consulting and solutions to upgrade their rolling stock according to their operational needs. Staff security and the environmental respect are at the centre of our rolling stock maintenance solutions. Our staff training, investments in securing the work environment as well as the treatment of waste-water and industrial refuse conform to the strictest standards.

**VIRGIN TRAINS**

For the train maintenance and cleaning contract signed with Virgin Trains in the UK, Alstom’s service undergoes a daily review with quality evaluation: bronze, silver or gold. The teams’ objectives go beyond customer requirements, going for the gold every day. In adopting the operators’ concerns as our own, we earn their trust.

**RENFE**

The maintenance contract signed in 1992 with the company RENFE in Spain allowed Alstom to support the upgrade of its AVE fleet of high speed trains. A major modernisation plan has been set up for the interiors, without interruption to passenger service, in order to anticipate the aging of the rolling stock, to preserve its value and respond to evolving passenger expectations.
INTELLIGENT MAINTENANCE

A wide range of know-how guarantees the excellence of Alstom’s maintenance offer. Our methods, processes and tools are all designed to optimize maintenance, to enhance reliability and to address obsolescence. We get the best out of each train component, replacing it only when it is truly necessary. The Alstom approach has three fundamentals: qualified and experienced crews, innovative tools and proven technologies, solid experience in rail technology.

INNOVATIVE TOOLS FOR OPTIMUM PERFORMANCE

The tools created by Alstom to optimise preventive and corrective maintenance for rolling stock are highly innovative. They use advanced technologies, such as condition-based monitoring (CBM), that allow us to determine wear patterns on main train components and sub-systems. Optimising lifecycles and components use boosts trains’ operational reliability and efficiency.

By adding Alstom’s Traintracer module to the train control system, a continuous flow of data and information concerning the status and wear trend of the train’s main components can be generated. Provided in real-time or on demand, technicians can analyse and understand incidents, anticipate possible problems or diagnose failures. The use of this information with predictive and preventive maintenance significantly increases fleet availability.

ADVANCED WEB 2.0 TECHNOLOGIES

At Alstom, we continuously revise our solutions for data processing and information transmission to improve the speed of reactivity to your maintenance needs:
- eDocumentation is available to you via the web; it is regularly updated based on feedback from field operations.
- eCatalogue (with a link to eDocumentation) allows you to identify and order train parts on-line.

QUALIFIED AND EXPERIENCED STAFF

Our project teams, located near you, assure the efficiency of your maintenance, bringing you the benefits of Alstom engineers and technicians’ multi-disciplinary experience. Our many maintenance operations worldwide afford Alstom a true ability to adapt to different local cultures.
SOLID AND PROVEN EXPERTISE

FREIGHT LOCOMOTIVES: A LONG-TERM, EXPERT PARTNERSHIP

In the 1990s, Mexican national rail company FNM decided to privatise its freight activity in stages. Seeking a reliable partner with international dimensions, able to successfully integrate a local workforce, FNM awarded Alstom a contract for the upgrade and maintenance of its fleet of over 300 GE locomotives. It proved such a success that since then, the four private operators to succeed FNM have re-confirmed Alstom in its mission.

In 2002, BNSF (Burlington Northern Santa Fe, USA) awarded Alstom the maintenance of 474 EMD locomotives, as part of a 12-year franchise contract. With 32,000 miles of track – one of the biggest networks in the world – BNSF benefits from our accumulated expertise in managing the tools and processes for predictive maintenance, such as conditional maintenance (CBM). Using advanced technologies, our ARC teams (Alliance Reliability Center) can plan the revision or replacement of parts as and when they are needed.

Veolia Cargo is one of Europe’s leading private freight operators. To optimise the performance and availability of its new electric locomotives, Veolia wanted to externalise their maintenance. The 10-year maintenance contract signed with Alstom in 2006 is a true partnership. Beyond preventive and corrective technical maintenance supported by our Traintracer diagnostic solution, it calls for the availability of a mobile technical team and around-the-clock bi-lingual hot line for off-site locomotive maintenance work.
VERY HIGH SPEED TRAINS, A HIGHLY SPECIALISED MAINTENANCE

The world of very high speed is doubtless one of the rail industry’s most demanding. At 300 km/h, the words reliability, security and availability find their true meaning!

The leading supplier in very high speed rail, Alstom possesses a know-how and expertise far beyond all others. Our technological mastery allows us to adapt rolling stock to meet our customers’ evolving needs.

In 1992, RENFE, the Spanish rail company, which until then assured its own maintenance, awarded Alstom the complete maintenance of its 18 AVE high speed trains.

Since then, Alstom guarantees that this fleet has a 100% rate of availability. The maintenance contract, which also applies to standard trains, including 21 non-Alstom locomotives, was renewed for an additional 14 years in 2002.

Virgin Trains, operators of the UK’s West Coast Main Line, has undertaken to make British rail transport faster, safer and more comfortable. Since 2004, Alstom has assured the full maintenance of its fleet of 53 Pendolino trains as well as 16 locomotives and 17 EMU trains that weren’t supplied by us. The Pendolinos are equipped with our complete Traintracer system, allowing technical teams to anticipate repairs or parts wear more efficiently and reduce the amount of time the train has to be out of service.

Most recently, Italian company NTV (Nuovo Trasporto Viaggiatori) signed a 30-year contract with Alstom for the full maintenance of 25 AGV trains and their depot.

METRO: RETURN ON EXPERIENCE, PERFORMANCE GUARANTEED

Among the London Underground lines managed by Tube Lines are the Northern and Jubilee Lines. Since 1997, Alstom assures the full maintenance of the 169 trains that serve these two lines. The contract was renewed in 2007 for another 10 years. In keeping with our aim of continuous progress, Alstom makes sure that each of these lines benefits from the experience gained from our work there. Beyond the traditional maintenance tasks, our local Alstom teams are able to satisfy customer needs as they evolve, thanks to the teams’ flexibility. For example, to accommodate the growth in passenger numbers, Alstom modernised the Jubilee fleet through the addition of a seventh car to each of the trains with no disruption to passenger service.

TRAMWAY: GREATER SYNERGIES FOR INCREASED AVAILABILITY

Alstom provides maintenance and supplies spare parts for some 500 Citadis tramways worldwide. Our 200 technicians who guarantee the tram’s performances have already chalked up seven years of field experience. Alstom is uniquely placed to develop synergies between the numerous Citadis projects and its maintenance operations. Customers reap significant benefits: reduced costs, and improved rolling stock performance and availability.
Through its know-how and the excellence of its products, Alstom is shaping the future of energy and transport infrastructure and contributing to improving the living and working conditions of people throughout the world. Today, more than 65,000 people in 70 countries are making an active contribution to the growth and development of its business.