

# SNCF ORDERS FOR 100 NEXT-GENERATION TGV TRAINSETS— MORE ECO-FRIENDLY AND ECONOMICAL, WITH ENHANCED COMFORT AND CONNECTIVITY

PARIS, 26 JULY 2018

On Thursday, 26 July 2018, the Board of Directors of SNCF Mobilités approved a firm order for 100 next-generation TGV trainsets at a cost of €3 billion.

The move represents a major investment, made possible by adjusting the TGV business model to win back customers, boost productivity and control production costs, and by the decision to stabilize track access fees.

The new-generation TGV was developed jointly by SNCF and Alstom. Launched in 2016, their partnership is dedicated to innovation and uses an unprecedented working method emphasizing agility and collaboration. Result: a genuine breakthrough in competitiveness, with a sharp reduction in both acquisition and operating costs. This TGV represents a decisive step toward making rail a more attractive mobility option, while revolutionizing the high-speed travel experience for passengers.

## Very good news:

- + For customers, who will enjoy more comfortable and connected TGV travel
- + For SNCF, with the trainsets a key asset in the new market that will emerge as cross-border barriers to rail operations in Europe fall and competition opens up
- + For the rail sector as a whole, since these are the greenest high-speed trainsets in history. As such, they are new and highly exportable industrial flagship to promote French engineering expertise in very high-speed rail.

## GROUND-BREAKING INNOVATIONS

The TGV du Futur will give customers an all-new high-speed travel experience:

### Lowest acquisition price on the market

The challenge facing the SNCF-Alstom team was to design a TGV that would cost €25 million—compared with €30 million for the TGV Duplex—plus €1.66 million per trainset for options that improve both profitability and on-board comfort. Mission accomplished as compare with current models, lifetime ownership of the TGV du Futur, will cut costs by more than 20%.

### Outstanding energy efficiency and ultra-competitive carbon footprint per journey

Reduced production, maintenance and energy costs are built into the new trainsets, and thanks to green driving practices, aerodynamic design and a system that redirects braking energy to the catenary, they consume 20% less energy.

Some 97% of the materials used to make the TGV du Futur are recyclable, and use of more eco-friendly materials means that its carbon footprint is 37% smaller than that of current trainsets.

### Totally modular

The new trains also feature modular interiors that can be adapted to passenger needs and market trends. Coaches can accommodate variable numbers of seats in spaces that can be reconfigured: operators can add luggage racks as desired or convert first-class compartments into second-class seating in just half a day.

### 20% more onboard space

The double-decker version of the next-generation TGV consists of two short-wheelbase power cars increasing the surface area for passengers and boosting capacity to 740—some 20% more than current TGV duplexes.

By maximizing space, the TGV du Futur reduces cost per seat, which will be the most competitive on the high-speed market.

### Smart and connected

This TGV is the first high-speed train offering full connectivity, which means:

- + access to modern, connected services tailored to passenger needs, with WiFi, timetables and other information available in real time in all carriages, online booking for select services, and more. The online network is also designed to keep pace with changing technology, incorporating new services as they emerge. For SNCF, the first priority was to make connectivity available on all lines: now its focus has shifted to improving connection quality.
- + real-time transmission of data using sensors to relay information on trainset components for greater reliability, more comfort and better preventive maintenance.

### Ultra-comfortable design improves the passenger experience

**Design for the new TGV du Futur focused 100% on customers and their needs:**

- + Modern interiors and contemporary materials for a warmer atmosphere.
- + Larger windows—37 cm longer in passenger seating areas, for a total of 10% more glass—and a modular lighting system that adjusts for arrivals and departures, for morning and evening light, and more.
- + Entirely redesigned air conditioning—smarter, with more accurate controls for greater comfort as airflows move through ceiling vents instead of armrest-level openings.
- + Researchers are still working to reduce noise pollution with better insulation.

### Accessible for all

This marks the first time that TGV creators have worked with wheelchair users throughout the design process. And the results go well beyond legal requirements: these passengers can access seating and move around the train independently thanks to a rotating and lifting platform. Toilets have also been totally redesigned.

## MISSION ACCOMPLISHED : PHASE 1 OF SNCF-ALSTOM INNOVATION PARTNERSHIP NOW COMPLETE

### Top experts from SNCF and Alstom use a shared platform to achieve a technological breakthrough

SNCF-Alstom's multi-disciplinary team of experts faced high expectations and a wide range of challenges as they set out to make TGV du Futur a better train.

Two years later, with over 1,000 innovations and 50 potential patents to their credit, they've done just that, reaching—and in some cases exceeding—all of their targets.

The project brought together 2,000 experts and resulted in a 100% French design. Operating from the same platform, engineers, designers and travel experts used a new collaborative method inspired directly by the design-to-cost approach.

### Focusing on the client

The team relied on a virtual reality system to bring customers on board from the start. Participants included:

- + frequent TGV travellers (through the CmonTGV community)
- + associations representing passengers with special needs, such as improved onboard accessibility for wheelchair users
- + students—our future customers—are taking a new approach to rail travel, presenting new challenges for the future.

SNCF incorporated all of these users opinions and needs into the design for the new TGV, and will continue to do so as it enters the next phases of detailed design.

*"This new TGV is the standard-bearer for French high-speed rail. And what a feat: a technological breakthrough that meets all our goals for industrial performance, and a source of pride that has generated an enthusiastic response from everyone who has worked on it. Above all—and of this I'm sure—it's a train that meets customer expectations, offering yet another reason to say OUI to more and more high-speed rail travel."*

**Rachel Picard – Managing Director, Voyages SNCF**

## SERVICE TO START UP IN UNDER FIVE YEARS

By signing the contract today, the SNCF Mobilités Board of Directors has marked the end of Phase 1 of the SNCF-Alstom partnership, which focused on testing concept feasibility. Enter Phase 2, starting now and set to last just over four years, focusing on detailed design, scaling up production, and certifying trainsets. The final phase—Phase 3—will cover trainset production and commercial roll-out.

Delivery is expected to run from 2023 to 2033. The new trainsets will operate throughout France.

*"This historic order, made possible by French rail reform, is a milestone in the development of our high-speed rail services.*

*For SNCF, the TGV du Futur is a key asset—and one that will help us gain ground in a European rail market open to competition. Harnessing excellence in technology and innovation for the 100 million customers we serve each year."*

**Guillaume Pepy – Chairman, SNCF Executive Board**

### Where the TGV du Futur will be produced

Ten of Alstom's French plants will contribute to development and production of the next-generation TGV—Belfort for power trains; La Rochelle for carriages; Villeurbanne for onboard IT systems, passenger information and electronic equipment; Ornans for engines; Le Creusot for bogies; Tarbes for traction; Petit Quevilly for transformers; Reichshoffen for energy absorption systems; Valenciennes for interiors; and Saint-Ouen for signalling systems, logistics, support services and design.

The project will generate a total of 4,000 jobs in the French rail industry—at Alstom and its suppliers—over a ten-year period.

### ABOUT SNCF GROUP

SNCF is a global leader in passenger and freight transport services, with revenue of €33.5 billion in 2017, of which one-third on international markets. With 270,000 employees in 120 countries, SNCF draws on its foundations in French rail and its extensive experience as an architect of transport services. It aims to become the benchmark for mobility and logistics solutions in France and worldwide. SNCF has six core businesses: SNCF Réseau (management and operation of the French rail network); commuter transport (mass transit in the Paris region, TER regional rail, and Keolis in France and worldwide); long-distance rail (TGV inOui, Ouigo, Intercités, Eurostar, Thalys, Ouibus and more, and ticket sales through Oui.sncf); SNCF Gares & Connexions (station management and development), SNCF Logistics (freight transport and logistics worldwide with Geodis, Fret SNCF and Ermewa) and SNCF Immobilier (management and optimization of SNCF property and land assets). [www.sncf.com](http://www.sncf.com)