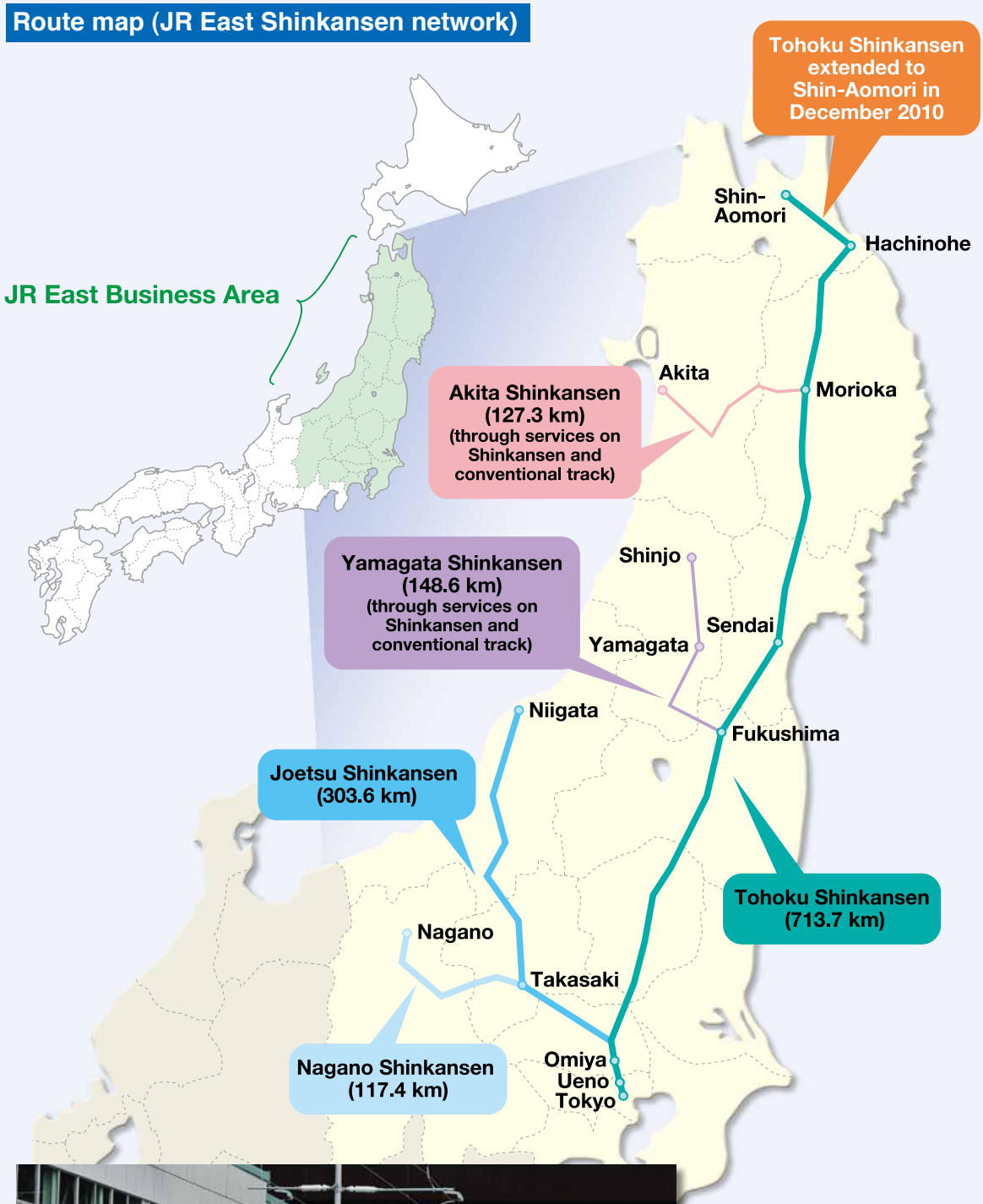
Route map (JR East Shinkansen network)

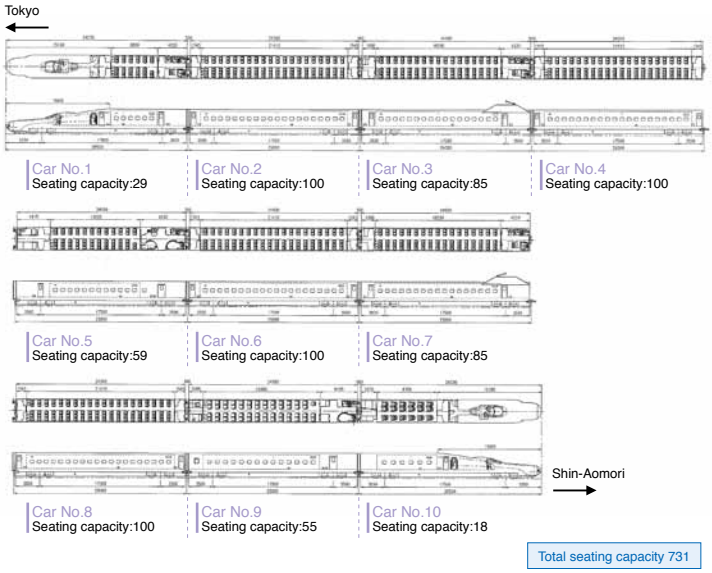


E5 series Shinkansen rolling stock (full production trainset)

Factors leading to introduction of Upper First Class

Many passengers have traveled in JR East's First Class Shinkansen cars over the years, and some of them expressed a desire for a quieter experience on board and a more distinctive atmosphere that only a premier class of travel can provide. It so happened that the E5 series was designed with a reduced size for the passenger cabin in the end cars, to compensate for the long nose required to reduce micro-pressure waves in tunnels. Because of this factor, and in response to demand for travel in superlative surroundings, the equipment and services for the small passenger cabin in Car 10 were upgraded to Upper First Class.

Configuration



Salient Features and Performance

An E5 series trainset has eight motorized cars and two trailers (8M2T), and consists of four units: 3 cars + 2 cars + 2 cars + 3 cars.
Starting acceleration is 0.474 m/s^2 (1.71 km/h/s). Maximum running speed is 320 km/h, and 360 km/h has been achieved at balancing speed on an upward gradient of 3‰. When the E5 series is coupled with the E3 series Shinkansen ("the E3", which provides through services on both Shinkansen and conventional track), it exhibits the same changeover performance characteristics as the E3, and has a starting acceleration of 0.444 m/s^2 (1.60 km/h/s).

Environmental Considerations

Micro-pressure waves in tunnels

Although the Fastech test train's nose was 16 m long, the following decisions were made when the train was designed for commercial operations:

- The nose was shortened to 15 m, to increase passenger capacity.
- Trainset length was calculated so that, when the E5 series is coupled with the E3, the total length will not impede ground equipment performance.
- All bogies were given common characteristics to ensure riding comfort and maintainability.
- To ensure comfort, visibility and equipment operability in the driver's cab, the cab design is