

The Class 700 trains

Increased performance, increased comfort, increased space

- The Class 700 is approximately 25% lighter than previous generations; that's 100 small cars lighter per 12 carriage train
- The new trains are also up to 50% more energy efficient; using the latest technology to conserve and re-generate power
- Over 60 million pounds has been spent developing the new trains
- The train design incorporates feedback from UK train operators, train crew, cleaners and maintenance staff, as well as dedicated passenger research

What's it all about?

The Department for Transport contracted Siemens plc and Cross London Trains (a consortium comprising Siemens Project Ventures GmbH, Innisfree Limited and 3i Infrastructure plc) to build 115 state-of-the-art trains (1,140 carriages) for the Govia Thameslink Railway (GTR) routes. Under this agreement, Siemens was also contracted to provide traincare facilities and ongoing maintenance to GTR and separately to deliver advanced signalling solutions to Network Rail.

These trains are known as the Class 700. The first two trains are now stabled in Three Bridges Traincare Facility in Crawley where they will undergo testing and commissioning before the start of passenger service in 2016. At the height of the project, one new train will be delivered per week.

The first Class 700 will be introduced on the Bedford to Brighton Line. The new trains will then be phased in gradually, running on both the Thameslink and Great Northern (London to Peterborough / Cambridge) routes as well as to new destinations in Kent and Sussex - significantly increasing capacity.

By the end of 2018, Thameslink trains will flow in and out of central London every 2-3 minutes at the busiest times, giving a metro-style service of up to 24 trains per hour in each direction. A service of this frequency, funnelled through a two-track section under central London, requires a high level of performance from its train fleet.



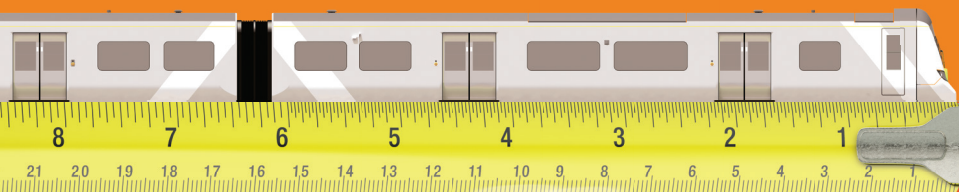
Number of trains:

1,140 carriages in total, equating to 115 new trains (55 x 12-carriage, 60 x 8-carriage)

Total number of seats*:

672 (12 carriages); 433 (8 carriages)

Total capacity: 1,754 passengers (12 carriages);
1,146 (8 carriages) *includes tip-up seats



THAMESLINK PROGRAMME

Increased performance, increased comfort, increased space

The lighter, energy efficient Class 700 trains will be able to accelerate faster and brake more efficiently and will offer a significantly improved travel experience for passengers.

With space always at a premium, many trains used on the Thameslink routes will be longer, meaning more people can travel with ease. Two by two seating has been introduced specifically as a result of research undertaken by Passenger Focus in a joint project with the Department of Transport and London TravelWatch.

The Class 700 also features more luggage space and improved access. The carriages have been designed to be light and airy, with large doors and windows and open gangways to ensure passengers can see, move through and get on and off the train easily. They are also easier to clean, thanks to cantilevered seats which create more space on the floor and additional room for luggage.



The intelligent new trains are climate controlled with CO2 sensors constantly assessing the number of people in the carriage and adjusting the fresh air flow accordingly. The clever systems don't stop there: they extend to advanced fire protection, real time updates and travel information and leading edge driver control and energy efficiency features.

Making the best even better

Siemens' trains are known to be some of the most reliable in the country, travelling over 65 million miles around the UK each year. The Class 700 takes this proven technology to the next level, taking an evolutionary approach to make the best even better and creating the UK's first, second-generation platform.

Additional developments include:

- A newly-developed, lightweight bogie (the wheelsets on which the trains run) which is kinder to the track.
- Two new Siemens-built train maintenance facilities to service the trains. In addition to the newly completed Three Bridges Traincare Facility (Sussex), this also includes one in Hornsey in North London (London Borough of Haringey) which is due to be completed in July 2016.

Technical data	
Axle arrangement	Bo'Bo' + 2'2' + Bo'Bo' + 2'2'+2'2' + Bo'Bo' + 2'2' + Bo'Bo' (8-car-EMU) Bo'Bo' + 2'2' +Bo'Bo' + Bo'Bo'+2'2'+ 2'2' + 2'2' + Bo'Bo'+ Bo'Bo' + 2'2' + Bo'Bo' (12-car EMU)
Power supply	AC 25kV / 50Hz (catenary) / DC 750V (third-rail)
Maximum speed	160 km/h (100 mph)
Power at wheel	3,3MW (8-car) / 5,0MW (12-car)
Wheel diameter	820mm (new) / 760mm (worn)
Gauge	1435mm
Nominal vehicle length	20m
Unit length	162,000mm (8-car) 242,600mm (12-car)
Unit Width	2,800mm
Floor height (a.r.l.)	1,100mm
Weight	278t (8-car) / 410t (12-car)

For more information visit ThameslinkProgramme.co.uk