

= Eurostar =

Eurostar is a high speed railway service connecting London with Avignon , Brussels , Lille , Lyon , Marseille and Paris . All its trains traverse the Channel Tunnel between the United Kingdom and France , owned and operated separately by Eurotunnel .

The London terminus is St Pancras International , with the other British calling points being Ebbsfleet International and Ashford International in Kent . Calling points in France are Calais , Fréthun and Lille , with trains to Paris terminating at Gare du Nord . Trains to Belgium terminate at Midi / Zuid station in Brussels . In addition , there are limited services from London to Disneyland Paris at Marne la Vallée ? Chessy , services to southern France as of 1 May 2015 and seasonal services to the Alps in winter .

The service is operated by 27 eighteen coach Class 373 / 1 trains which run at up to 300 kilometres per hour ( 186 mph ) on a network of high speed lines . The LGV Nord line in France opened before Eurostar services began in 1994 , and newer lines enabling faster journeys were added later ? HSL 1 in Belgium and High Speed 1 in southern England . The French and Belgian parts of the network are shared with Paris ? Brussels Thalys services and also with TGV trains . In the United Kingdom the two stage Channel Tunnel Rail Link project was completed on 14 November 2007 and renamed High Speed 1 , when the London terminus of Eurostar transferred from Waterloo International to St Pancras International .

Eurostar was until 2010 operated jointly by the national railway companies of France and Belgium , SNCF and SNCB / NMBS , and Eurostar ( UK ) Ltd ( EUKL ) , a subsidiary of London and Continental Railways ( LCR ) , which also owned the high speed infrastructure and stations on the British side . Eurostar has become the dominant operator on the routes that it operates , carrying more passengers than all airlines combined . Other operators have expressed an interest in starting competing services following deregulation in 2010 . On 1 September 2010 , Eurostar was incorporated as a single corporate entity called Eurostar International Limited ( EIL ) , replacing the joint operation between EUKL , SNCF and SNCB / NMBS . EIL is owned by SNCF ( 55 % ) , LCR ( 40 % ) and SNCB / NMBS ( 5 % ) .

In June 2014 , the UK shareholding in Eurostar International Limited was transferred from London and Continental Railways / Department for Transport to HM Treasury . In October 2014 , it was announced that the UK government planned to raise £ 300 million by selling that stake . In March 2015 , the UK government announced that it will be selling its 40 % share to an Anglo Canadian consortium . If the sale goes ahead , the ownership of Eurostar International will be SNCF ( 55 % ) , Caisse de dépôt et placement du Québec ( 30 % ) , Hermes Infrastructure ( 10 % ) and SNCB ( 5 % ) .

= = History = =

= = = Conception and planning = = =

The history of Eurostar can be traced to the 1986 choice of a rail tunnel to provide a cross channel link between Britain and France . A previous attempt at constructing a tunnel between the two nations had begun in 1974 , but was quickly aborted . In 1988 construction began on a new basis . Eurotunnel was created to manage and own the tunnel , which was finished in 1993 , the official opening taking place in May 1994 .

In addition to the tunnel 's shuttle trains carrying cars and lorries between Folkestone and Calais , the decision to build a railway tunnel opened up the possibility of through passenger and freight train services between places further afield . British Rail and SNCF contracted with Eurotunnel to use half the tunnel 's capacity for this purpose . In 1987 Britain , France and Belgium set up an International Project Group to specify a train to provide an international high speed passenger service through the tunnel . France had been operating high speed TGV services since 1981 , and had begun construction of a new high speed line between Paris and the Channel Tunnel ,

LGV Nord ; French TGV technology was chosen as the basis for the new trains . An order for 30 trainsets , to be manufactured in France but with some British and Belgian components , was placed in December 1989 . On 20 June 1993 , the first Eurostar test train travelled through the tunnel to the UK . Various technical difficulties in running the new trains on British tracks were quickly overcome .

== Launch of service ==

On 14 November 1994 Eurostar services began between Waterloo International station in London , Gare du Nord in Paris and Brussels @-@ South railway station in Brussels . In 1995 Eurostar was achieving an average end @-@ to @-@ end speed of 171 @.@ 5 km / h ( 106 @.@ 6 mph ) between London and Paris . On 8 January 1996 Eurostar launched services from a second railway station in the UK when Ashford International was opened . Journey times between London and Brussels were reduced by the opening of HSL 1 on 14 December 1997 .

On 23 September 2003 passenger services began running on the first completed section of High Speed 1 . Following a high @-@ profile glamorous opening ceremony and a large advertising campaign , on 14 November 2007 Eurostar services in London transferred from Waterloo to the extended and extensively refurbished St Pancras International .

== Records achieved ==

The Channel Tunnel used by Eurostar services holds the record for having the longest undersea section anywhere in the world , and it is the second longest rail tunnel in the world . A Eurostar train set a new British speed record of 334 @.@ 7 km / h ( 208 @.@ 0 mph ) on the first section of High Speed 1 on 30 July 2003 , two months before services began running upon the first section of High Speed 1 .

On 16 May 2006 Eurostar set a new record for the longest non @-@ stop high @-@ speed journey , a distance of 1 @, @ 421 kilometres ( 883 mi ) from London to Cannes taking 7 hours 25 minutes . On 4 September 2007 a record @-@ breaking train left Paris Gare du Nord at 10 : 44 ( 09 : 44 BST ) and reached London St Pancras in 2 hours 3 minutes 39 seconds ; carrying journalists and railway workers . The train was the first passenger @-@ carrying arrival at St Pancras International station . On 20 September 2007 , Eurostar broke another record when it completed the journey from Brussels to London in 1 hour , 43 minutes .

== Regional Eurostar and Nightstar ==

The original proposals for Eurostar included direct services to Paris and Brussels from cities north of London ( NoL ) : Manchester via Birmingham on the West Coast Main Line and Glasgow via Edinburgh , Newcastle and York on the East Coast Main Line . Seven shorter NoL Eurostar trains for these Regional Eurostar services were built , but these services never ran . Predicted journey times of almost nine hours for Glasgow to Paris at the time of growth of low @-@ cost air travel during the 1990s made the plans commercially unviable against the cheaper and quicker airlines . Other reasons that have been suggested for these services having never been run were both government policies and the disruptive privatisation of British Rail . Three of the Regional Eurostar units were leased by Great North Eastern Railway ( GNER ) to increase domestic services from London King 's Cross to York and later Leeds . The leases ended in December 2005 , and most of the NoL sets have since been transferred to SNCF for TGV services in northern France .

An international Nightstar sleeper train was also planned ; this would have travelled the same routes as Regional Eurostar , plus the Great Western Main Line to Cardiff . These were also deemed commercially unviable , and the scheme was abandoned with no services ever operated . In 2000 the coaches were sold to Via Rail in Canada .

== Ashford International station ==

Ashford International station was the original station for Eurostar services in Kent . Once Ebbsfleet International railway station , also designed to serve the Kent region , had opened , only three trains a day to Paris and one to Disneyland Paris called at Ashford for a considerable amount of time . There were fears that services at Ashford International might be further reduced or withdrawn altogether as Eurostar planned to make Ebbsfleet the new regional hub instead . However , after a period during which no Brussels trains served the station , to the dissatisfaction of the local communities , on 23 February 2009 Eurostar re @-@ introduced a single daily Ashford @-@ Brussels service .

= = Mainline routes = =

= = = LGV Nord = = =

LGV Nord is a French 333 @-@ kilometre ( 207 mi ) -long high @-@ speed rail line that connects Paris to the Belgian border and the Channel Tunnel via Lille . It opened in 1993 . Its extensions to Belgium and towards Paris , as well as connecting to the Channel Tunnel , have made LGV Nord a part of every Eurostar journey undertaken . A Belgian high @-@ speed line , HSL 1 , was added to the end of LGV Nord , at the Belgian border , in 1997 . Of all French high @-@ speed lines , LGV Nord sees the widest variety of high @-@ speed rolling stock and is quite busy ; a proposed cut @-@ off bypassing Lille , which would reduce Eurostar journey times to Paris , is called LGV Picardie .

= = = Channel Tunnel = = =

The Channel Tunnel is a crucial part of the route as it is the only rail connection between Great Britain and the European mainland . It joins LGV Nord in France with High Speed One in Britain . Tunnelling began in 1988 , and the 50 @. @ 5 @-@ kilometre ( 31 @. @ 4 mi ) tunnel was officially opened by the British sovereign Queen Elizabeth II and the French President François Mitterrand at a ceremony in Calais on 6 May 1994 . It is owned by Eurotunnel , which charges a significant toll to Eurostar for its use . In 1996 the American Society of Civil Engineers identified the tunnel as one of the Seven Wonders of the Modern World . Along the current route of the Eurostar service , line speeds are 300 kilometres per hour ( 186 mph ) except within the Channel Tunnel , where a reduced speed of 160 kilometres per hour ( 100 mph ) applies for safety reasons . Since the launch of Eurostar services , severe disruptions and cancellations have been caused by fires breaking out within the Channel Tunnel , such as in 1996 , 2006 ( minor ) , 2008 and 2015 .

= = = HSL 1 = = =

Journey times between London and Brussels were improved when an 88 @-@ kilometre ( 55 mi ) Belgian high @-@ speed line , HSL 1 , opened on 14 December 1997 . It links with LGV Nord on the border with France , allowing Eurostar trains heading to Brussels to make the transition between the two without having to reduce speed . A further four @-@ minute improvement for London ? Brussels trains was achieved in December 2006 with the opening of the 435 @-@ metre ( 1 @ , @ 427 ft ) Brussels South Viaduct . Linking the international platforms of Brussels @-@ South railway station with the high @-@ speed line , the viaduct separates Eurostar ( and Thalys ) from local services .

= = = High Speed 1 = = =

High Speed 1 ( HS1 ) , formerly known as the Channel Tunnel Rail Link ( CTRL ) , is a 108 @-@ kilometre ( 67 mi ) high @-@ speed railway line running from London through Kent to the British end of the Channel Tunnel . It was built in two stages . The first section between the tunnel and

Fawkham Junction in north Kent opened in September 2003 , cutting London ? Paris journey times by 21 minutes to 2 hours 35 minutes , and London ? Brussels to 2 hours 20 minutes . On 14 November 2007 , commercial services began over the whole of the new HS1 line . The redeveloped St Pancras International station became the new London terminus for all Eurostar services . The completion of High Speed 1 has brought the British part of Eurostar 's route up to the same standards as the French and Belgian high @-@ speed lines . Non @-@ stop journey times were reduced by a further 20 minutes to 2 hours 15 minutes for London ? Paris and 1 hour 51 minutes for London ? Brussels .

= = Services = =

= = = Frequency = = =

Eurostar offers up to sixteen weekday London ? Paris services ( eighteen on Fridays ) including ten non @-@ stop ( twelve on Fridays ) . There used to be ten London ? Lille and Brussels services , including five running non @-@ stop as far as Lille , but this has now been reduced to seven each way . In addition , there is a return trip from London to Marne @-@ la @-@ Vallée - Chessy for Disneyland Paris which runs at least 4 times a week with increased frequency during school holidays and an up to 5 times a week service to Marseille via Lyon and Avignon . There are also seasonal services in the winter . " Snow trains " , aimed at skiers , to Bourg @-@ Saint @-@ Maurice , Aime @-@ la @-@ Plagne and Moûtiers in the Alps ; these run twice @-@ weekly , one overnight and one during the daytime . Intermediate stations are Ebbsfleet International in northwest Kent , Ashford International in southeast Kent , and Calais @-@ Fréthun and Lille @-@ Europe in Nord @-@ Pas @-@ de @-@ Calais .

Since 14 November 2007 , all Eurostar trains have been routed via High Speed 1 to or from the redeveloped London terminus at St Pancras International , which at a cost of £ 800 million was extensively rebuilt and extended to cope with 394 @-@ metre ( 431 yd ) long Eurostar trains . It had originally been intended to retain some Eurostar services at Waterloo International terminal , but this was ruled out on cost grounds . Completion of High Speed 1 has increased the potential number of trains serving London . Separation of Eurostar from British domestic services through Kent meant that timetabling was no longer affected by peak @-@ hour restrictions .

= = = Fares = = =

Eurostar 's fares were significantly higher in its early years ; the cheapest fare in 1994 was £ 99 return . In 2002 , Eurostar was planning cheaper fares , an example of which was an offer of £ 50 day returns from London to Paris or Brussels . By March 2003 , the cheapest fare from the UK was £ 59 return , available all year around . In June 2009 it was announced that one @-@ way single fares would be available at £ 31 at the cheapest . Competition between Eurostar and airline services was a large factor in ticket prices being reduced from the initial levels . Business Premier fares also slightly undercut air fares on similar routes , targeted at regular business travellers . In 2009 , Eurostar greatly increased its budget ticket availability to help maintain and grow its dominant market share . The Eurostar ticketing system is very complex , being distributed through no fewer than 48 individual sales systems . Eurostar is a member of the Amadeus CRS distribution system , making its tickets available alongside those of airlines worldwide .

First class on Eurostar is called Business Premier ; benefits include guaranteed faster checking @-@ in and meals served at @-@ seat , as well as the improved furnishings and interior of Business Premier carriages . The rebranding is part of Eurostar 's marketing drive to attract more business professionals . Increasingly , business people in a group have been chartering private carriages as opposed to individual seats on the train .

= = = Service connections = = =

Without the operation of Regional Eurostar services using the North of London trainsets across the rest of Britain , Eurostar has developed its connections with other transport services instead , such as integrating effectively with traditional UK rail operators ' schedules and routes , making it possible for passengers to use Eurostar as a quick connection to further destinations on the continent . All three main terminals used by the Eurostar service ? St Pancras International , Paris Gare du Nord , and Brussels Midi / Zuid ? are served by domestic trains and by local urban transport networks such as the London Underground and the Paris Metro . Standard Eurostar tickets no longer include free onward connections to or from any other station in Belgium : this is now available for a flat @-@ rate supplement , currently £ 5 @.@ 50 .

Eurostar has announced several partnerships with other rail services , most notably Thalys connections at Lille and Brussels for passengers to go beyond current Eurostar routes towards the Netherlands and Germany . In 2002 , Eurostar initiated the Eurostar @-@ Plus program , offering connecting tickets for onward journeys from Lille and Paris to dozens of destinations in France . Through fares are also available from 68 British towns and cities to destinations in France and Belgium . In May 2009 Eurostar announced that a formal connection to Switzerland had been established in a partnership between Eurostar and Lyria , which will operate TGV services from Lille to the Swiss Alps for Eurostar connection .

### = = = Controls and security = = =

Because the UK is not part of the Schengen Area , and because Belgium and France are not part of the Common Travel Area , all Eurostar passengers must go through border controls . Both the British Government and the Schengen governments concerned ( Belgium and France ) have legal obligations to check the travel documents of those entering their respective countries ( as well as those leaving , in the case of Belgium and France ) .

To allow passengers to walk off the train on arrival in most cases , passport controls ordinarily take place at the embarkation station .

In order to comply with special UK legislation , there are full security checks similar to those at airports , scanning both bags and people 's pockets . Security checks at Eurostar are comparable to those at a small airport and generally much quicker than at London Heathrow . The recommended check @-@ in time is 30 minutes except for business class where it is 10 minutes .

Eurostar passengers travelling inside the Schengen Area ( mainly from Brussels to Lille , but also from Brussels to Calais ) are also checked by the UK Border Force within Belgian territory , since there is no way of separating them out from Brussels ? London passengers . When the tripartite agreements were signed , the Belgian Government said that it had serious questions about the compatibility of this agreement with the Schengen Convention and the principle of free movement of people enshrined in various European Treaties . On 30 June 2009 Eurostar raised concerns at the UK House of Commons Home Affairs Select Committee that it was illegal under French law for the collection of information desired by the UK government under the e @-@ Borders scheme , and they would be unable to cooperate .

Where there is no facility for security checks , for example on the northbound Provence service , passengers must leave the train at Lille and undergo security and passport checks there before reboarding the train .

On several occasions , people have illegally tried to stow away on board the train , sometimes in large groups , trying to enter the UK ; border monitoring and security is therefore extremely tight . Eurostar claims to have good and well @-@ funded security measures .

### = = = Operational performance = = =

Eurostar 's punctuality has fluctuated from year to year , but usually remains over 90 % ; in the first quarter of 1999 , 89 % of services operated were on time , and in the second quarter it reached 92 % . Eurostar 's best punctuality record was 97 @.@ 35 % , between 16 and 22 August 2004 . In

2006 , it was 92 % , and in 2007 , 91 % were on time . In the first quarter of 2009 , 96 % of Eurostar services were punctual compared with rival air routes ' 76 % .

An advantage held by Eurostar is the convenience and speed of the service : with shorter check-in times than at most airports and hence quicker boarding and less queueing and high punctuality , it takes less time to travel between central London and central Paris by high speed rail than it does by air . Eurostar now has a dominant share of the combined rail ? air market on its routes to Paris and Brussels . In 2004 , it had a 66 % share of the London ? Paris market , and a 59 % share of the London ? Brussels market . In 2007 , it achieved record market shares of 71 % for London ? Paris and 65 % for London ? Brussels routes .

Eurostar 's passenger numbers initially failed to meet predictions . In 1996 , London and Continental Railways forecast that passenger numbers would reach 21 million annually by 2004 , but only 7 million was achieved . 82 million passengers used Waterloo International Station from its opening in 1994 to its closure in 2007 . 2008 was a record year for Eurostar , with a 10 % rise in passenger use , which was attributed to the use of High Speed 1 and the move to St Pancras . The following year , Eurostar saw an 11 % fall in passenger numbers during the first three months of 2009 , attributed to the 2008 Channel Tunnel fire and the 2009 recession .

As a result of the poor economic conditions , Eurostar received state aid in May 2009 to cancel out some of the accumulated debt from the High Speed 1 construction programme . Later that year , during snowy conditions in the run up to Christmas , thousands of passengers were left stranded as several trains broke down and many more were cancelled . In an independent review commissioned by Eurostar , the company came in for serious criticism about its handling of the incident and lack of plans for such a scenario .

In 2006 , the Department for Transport predicted that , by 2037 , annual cross channel passenger numbers would probably reach 16 million , considerably less optimistic than London and Continental Railways 's original 1996 forecast . In 2007 Eurostar set a target of carrying 10 million passengers by 2010 . The company cited several factors to support this objective , such as improved journey times , punctuality and station facilities . Passengers in general , it stated , are becoming increasingly aware of the environmental effects of air travel , and Eurostar services emit much less carbon dioxide. and that its remaining carbon emissions are now offset , making its services carbon neutral . Further expansion of the high speed rail network in Europe , such as the HSL Zuid line between Belgium and the Netherlands , continues to bring more destinations within rail competitive range , giving Eurostar the possibility of opening up new services in future .

The following chart presents the estimated number of passengers annually transported by the Eurostar service since 1995 , in millions :

== Awards and accolades ==

Eurostar has been hailed as having set new standards in international rail travel and has won praise several times over , recognising its high standards . Eurostar won the Train Operator of the Year award in the HSBC Rail Awards for 2005 . It was declared the Best Train Company in the joint Guardian / Observer Travel Awards 2008 . Eurostar had previously struggled with its reputation and brand image . One commentator had defined the situation at the time as :

In June 2003 , Eurostar was battling to recover from the worst period in its 10 year history . Negative media coverage combined with poor sales and the general public 's low opinion of the British rail industry , created a major challenge ... Eurostar was finding it difficult to pick itself up from one of the worst periods in its decade long history . The period post 9 / 11 had sent the business into a downturn . Passenger numbers were drying up due to worries over international travel . Several management changes had led to a pause in strategy . Punctuality had suffered badly because of wider problems with the UK 's rail infrastructure .

By 2008 , Eurostar 's environmental credentials had become highly developed and promoted . In 2006 Eurostar 's Environment Group was set up , with the aim of making changes in the Eurostar services ' daily running to decrease the environmental impact , the organisation setting itself a target

of reducing carbon emissions per passenger journey by 25 % by 2012 . Drivers are trained in techniques to achieve maximum energy efficiency , and lighting has been minimised ; the provider of the bulk of the energy for the Channel Tunnel has been switched to nuclear power stations in France .

Eurostar 's current target is to reduce emissions by 35 percent per passenger journey by 2012 , putting itself beyond the efforts of other railway companies in this field and thereby winning the 2007 Network Rail Efficiency Award . In the grand opening ceremony of St Pancras International , one of the Eurostar trains was given the name ' Tread Lightly ' , said to symbolise their smaller impact on the environment compared to planes .

== Organisation ==

Since 2010 , Eurostar is owned by Eurostar International Limited , a company jointly owned by London & Continental Railways , SNCF and SNCB / NMBS .

== Railteam ==

Eurostar is a member of Railteam , a marketing alliance formed in July 2007 of seven European high @-@ speed rail operators , including Thalys . The alliance plans to allow tickets to be booked from one end of Europe to the other on a single website . In June 2009 London and Continental Railways , and the Eurostar UK operations they held ownership of , became fully nationalised by the UK government .

== Fleet ==

== Fleet details ==

In addition to its multiple unit fleet units , Eurostar operates a single Class 08 diesel shunter as the pilot at Temple Mills depot .

== Current fleet ==

== Class 373 ==

Built between 1992 and 1996 , Eurostar 's fleet consists of 38 EMU trains , designated Class 373 in the United Kingdom and TGV TMST in France . The units have also been branded as the Eurostar e300 by Eurostar since 2015 . There are two variants :

31 " Inter @-@ Capital " sets consisting of two power cars and eighteen passenger carriages . These trains are 394 metres ( 1 @, @ 293 ft ) long and can carry 750 passengers : 206 in first class , 544 in standard class .

7 shorter " North of London " sets which have two power cars and fourteen passenger carriages and are 320 metres ( 1 @, @ 050 ft ) long . These sets have a capacity of 558 seats : 114 first class , 444 standard and which were designed to operate the aborted Regional Eurostar services .

The trains are essentially modified TGV sets , and can operate at up to 300 kilometres per hour ( 186 mph ) on high @-@ speed lines , and 160 kilometres per hour ( 99 mph ) in the Channel Tunnel . It is possible to exceed the 300 @-@ kilometre @-@ per @-@ hour speed limit , but only with special permission from the safety authorities in the respective country . Speed limits in the Channel Tunnel are dictated by air @-@ resistance , energy ( heat ) dissipation and the need to fit in with other , slower trains . The trains were designed with Channel Tunnel safety in mind , and consist of two independent " half @-@ sets " each with its own power car . In the event of a serious fire on board while travelling through the tunnel , passengers would be transferred into the undamaged half

of the train , which would then be detached and driven out of the tunnel to safety . If the undamaged part were the rear half of the train , this would be driven by the Chef du Train , who is a fully authorised driver and occupies the rear driving cab while the train travels through the tunnel for this purpose .

As 27 of the 31 Inter @-@ Capital sets are sufficient to operate the service , four are currently used by SNCF for domestic TGV services ; one of these regularly operates a Paris ? Lille shuttle . The Eurostar logos have been removed from these sets , but the base colours of white , black , and yellow remain . SNCF 's lease of the sets is scheduled to last until 2011 , with an option for a further two years .

Each train has a unique four @-@ digit number starting with " 3 " ( 3xxx ) . This designates the train as a Mark 3 TGV ( Mark 1 being SNCF TGV Sud @-@ Est ; Mark 2 being SNCF TGV Atlantique ) . The second digit denotes the country of ownership :

30xx UK

31xx Belgium

32xx France

33xx Regional Eurostar

===== Fleet updates =====

In 2004 ? 2005 the " Inter @-@ Capital " sets still in daily use for international services were refurbished with a new interior designed by Philippe Starck . The original grey @-@ yellow scheme in Standard class and grey @-@ red of First / Premium First were replaced with a grey @-@ brown look in Standard and grey @-@ burnt @-@ orange in First class . Power points were added to seats in First class and coaches 5 and 14 in Standard class . Premium First class was renamed BusinessPremier .

In 2008 , Eurostar announced that it would be carrying out a mid @-@ life refurbishment of its Class 373 trains to allow the fleet to remain in service beyond 2020 . This will include the 28 units making up the Eurostar fleet , but not the three Class 373 / 1 units used by SNCF or the seven Class 373 / 2 " North of London " sets . As part of the refurbishment , the Italian company Pininfarina was contracted to redesign the interiors , and The Yard Creative was selected to design the new buffet cars . On 11 May 2009 Eurostar revealed the new look for its first @-@ class compartments . The first refurbished train was due in service in 2012 , and Eurostar plans to have completed the entire process by 2014 .

On 13 November 2014 Eurostar announced the first refurbished trains would not re @-@ enter the fleet until the 3rd or 4th quarter of 2015 due to delays at the completion centre .

===== Class 374 =====

In addition to the announced mid @-@ life update of the existing Class 373 fleet , Eurostar in 2009 reportedly entered prequalification bids for eight new trainsets to be purchased . Any new trains would need to meet the same safety rules governing passage through the Channel Tunnel as the existing Class 373 fleet . The replacement to the Class 373 trains has been decided jointly between the French Transport Ministry and the UK Department for Transport . The new trains will be equipped to use the new ERTMS in @-@ cab signalling system , due to be fitted to High Speed 1 around 2040 .

On 7 October 2010 , it was reported that Eurostar had selected Siemens as preferred bidder to supply 10 Siemens Velaro e320 trainsets at a cost of ? 600 million ( and a total investment of more than £ 700 million with the refurbishment of the existing fleet included ) to operate an expanded route network , including services from London to Cologne and Amsterdam . These would be sixteen @-@ car , 400 @-@ metre ( 1 @-@ ,@ 312 ft ) long trainsets built to meet current Channel Tunnel regulations . The top speed will be 320 km / h ( 199 mph ) and they will have 894 ? 950 seats , unlike the current fleet built by the French company Alstom , which has a top speed of 300 km / h ( 186 mph ) and a seating capacity of 750 . Total traction power will be rated at 16 MW .



The nomination of Siemens would see it break into the French high @-@ speed market for the first time , as all French and French subsidiary high @-@ speed operators use TGV derivatives produced by Alstom . Alstom attempted legal action to prevent Eurostar from acquiring German @-@ built trains , claiming that the Siemens sets ordered would breach Channel Tunnel safety rules , but this was thrown out of court . Alstom said , after its High Court defeat , that it would " pursue alternative legal options to uphold its position " . On 4 November 2010 , the company lodged a complaint with the European Commission over the tendering process , which then asked the British government for " clarification " . Alstom then announced it had started legal action against Eurostar , again in the High Court in London . In July 2011 , the High Court rejected Alstom 's claim that the tender process was " ineffective " , and in April 2012 Alstom said it would call off pending court actions against Siemens . This effectively freed the way for Siemens to build the new Eurostar trains , the first of which are expected to enter service in late 2015 .

On 13 November 2014 Eurostar announced the purchase of an additional seven e320s for delivery in the second half of 2016 . At the same time , Eurostar announced the first five e320s from the original order of ten would be available by December 2015 , with the remaining five entering service by May 2016 . Of the five sets ready by December 2015 , three of them were planned to be used on London @-@ Paris and London @-@ Brussels routes .

= = = Past fleet = = =

= = Accidents , incidents and events = =

A number of technical incidents have affected Eurostar services over the years , but up to the present there has only been one major accident involving a service operated by Eurostar , a derailment in June 2000 . Other incidents in the Channel Tunnel ? such as the 1996 and 2008 Channel Tunnel fires ? have affected Eurostar services but were not directly related to Eurostar 's operations . However , the breakdowns in the tunnel , which resulted in cessation of service and inconvenience to thousands of passengers , in the run @-@ up to Christmas 2009 , proved a public @-@ relations disaster .

= = = Minor incidents = = =

There have been several minor incidents with a few Eurostar services . In October 1994 there were teething problems relating to the start of operations . The first preview train , carrying 400 members of the press and media , was delayed for two hours by technical problems . On 29 May 2002 a Eurostar train was initially sent down a wrong line ? towards London Victoria railway station instead of London Waterloo ? causing the service to arrive 25 minutes late . A signalling error that led to the incorrect routing was stated to have caused " no risk " as a result .

On 11 April 2006 , a house collapsed next to a railway line near London which caused Eurostar services to have to terminate and start from Ashford International instead of London Waterloo . Passengers waiting at Waterloo International were initially directed on to local trains towards Ashford leaving from the adjacent London Waterloo East railway station , until overcrowding occurred at Ashford .

= = = 1996 = = =

Approximately 1000 passengers were trapped in darkness for several hours inside two Eurostar trains on the night of 19 / 20 February 1996 . The trains stopped inside the tunnels due to electronic failures caused by snow and ice . Questions were raised at the time about the ability of the train and tunnel electronics to withstand the mix of snow , salt and ice which collect in the tunnels during periods of extreme cold .

=== 2000 ===

On 5 June 2000 a Eurostar train travelling from Paris to London derailed on the LGV Nord high @-@ speed line while traveling at 290 km / h ( 180 mph ) . Fourteen people were treated for light injuries or shock , with no fatalities or major injuries . The articulated nature of the trainset was credited with maintaining stability during the incident and all of the train stayed upright . The incident was caused by a traction link on the second bogie of the front power car coming loose , leading to components of the transmission system on that bogie impacting the track .

=== 2007 ===

The first departures from St Pancras on 14 November 2007 coincided with an open @-@ ended strike by French rail unions as part of general strike actions over proposed public @-@ sector pension reforms . The trains were operated by uninvolved British employees and service was not interrupted .

=== 2009 ===

On 23 September 2009 an overhead power line dropped on to a Class 373 train arriving at St Pancras station , activating a circuit breaker and delaying eleven other trains . Two days later , on 25 September 2009 , electrical power via the overhead lines was lost on a section of high @-@ speed line outside Lille , delaying passengers on two evening Eurostar @-@ operated services .

During the December 2009 European snowfall , four Eurostar trains broke down inside the Channel Tunnel , after leaving France , and one in Kent on 18 December . Although the trains had been winterised , the systems had not coped with the conditions . Over 2 @,@ 000 passengers were stuck inside failed trains inside the tunnel , and over 75 @,@ 000 had their services disrupted . All Eurostar services were cancelled from Saturday 19 December to Monday 21 December 2009 . An independent review , published on 12 February 2010 , was critical of the contingency plans in place for assisting passengers stranded by the delays , calling them " insufficient " .

=== 2010 ===

On 7 January 2010 a Brussels @-@ London train broke down in the Channel Tunnel , resulting in three other trains failing to complete their journeys . The cause of the failure was the onboard signalling system . Due to the severe weather , a limited service was operated in the next few days .

On 15 February 2010 , services between Brussels and London were interrupted following the Halle train collision , this time after the dedicated HSL 1 lines in the suburbs of the Belgian capital were blocked by debris from a serious train crash on the suburban commuter lines alongside . No efforts were made to reroute trains around the blockage ; Eurostar instead terminated services to Brussels at Lille , directing passengers to continue their journey on local trains . Brussels services resumed on a limited scale on 22 February .

On 21 February 2010 the 21 : 43 service from Paris to London broke down just outside Ashford International , stranding 740 passengers for several hours while a rescue train was called in .

On 15 April 2010 air traffic in Western Europe closed because of the eruption of the Eyjafjallajökull volcano . Many travellers between the UK and the European mainland instead took the Eurostar train , all tickets between Brussels and London on 15 and 16 April being sold out within 3 ½ hours after the closure of British airspace . Between 15 and 20 April , Eurostar put on 33 additional trains and carried 165 @,@ 000 passengers ? 50 @,@ 000 more than had been scheduled to travel during this period .

On 20 December 2010 , the Channel Tunnel was closed off for a day due to snowy weather . Eurostar Trains were suspended that day with thousands of passengers stranded in the run up to Christmas

== 2011 ==

On 17 October 2011 a man fell at approximately 17 : 40 or 17 : 50 from the 17 : 04 service from London to Brussels as it passed through Westenhanger and Cheriton in Folkestone , near the entry to the Channel Tunnel . The individual was an Albanian who had been refused entry to the United Kingdom and was voluntarily returning to Brussels . The line was handed back at 22 : 09 after being closed for several hours following the incident . The train itself returned north to Ashford International , where passengers were transferred to a Eurostar service operating from Marne @-@ la @-@ Vallée to London , where passengers arrived again at approximately 22 : 30 .

= Controversy =

In 2015 Eurostar threatened to require that cyclists dismantle bicycles before they could be transported on trains . Following criticism from Boris Johnson and cycling groups Eurostar reversed the edict .

= Possible developments =

= Stratford International station ==

Eurostar trains do not currently call at Stratford International , originally intended to be the London stop for the regional Eurostars . This was to be reviewed following the 2012 Olympics . However , in 2013 , Eurostar claimed that its ' business would be hit ' by stopping trains there .

= Regional Eurostar ==

Although the original plan for Regional Eurostar services to destinations north of London was abandoned , the significantly improved journey times available since the opening of High Speed 1 ? which is physically connected to both the East Coast Main Line and the North London Line ( for the West Coast Main Line ) at St Pancras ? and the recently increased maximum speeds on the West Coast Main Line may make potential Regional Eurostar services more commercially viable . This would be even more likely if proposals are adopted for a new high @-@ speed line from London to the north of Britain . Simon Montague , Eurostar 's Director of Communications , commented that : " ... International services to the regions are only likely once High Speed 2 is built . "

Key pieces of infrastructure still belong to LCR via its subsidiary London & Continental Stations and Property , such as the Manchester International Depot , and Eurostar ( UK ) still owns several track access rights and the rights to paths on both the East Coast and West Coast Main Lines . While no announcement has been made of plans to start Regional Eurostar services , it remains a possibility for the future . In the meantime , the closest equivalent to Regional Eurostar services are same @-@ station connections with East Midlands Trains and Thameslink , changing at St Pancras . The recent construction of a new concourse at adjacent King 's Cross Station has improved interchange with St Pancras and provided East Coast , Great Northern , First Hull Trains and Grand Central services with easier connections to Eurostar .

= High Speed 2 ==

Eurostar has already been involved in reviewing and publishing reports into High Speed 2 for the British Government and looks favourably upon such an undertaking . The operation of Regional Eurostar services will not be considered until such time as High Speed 2 has been completed . Alternatively , future loans of the North of London sets to other operators would enable the trains to operate at their full speed , unlike GNER 's previous loan between 2000 and 2005 , where the trains were limited to 175 km / h ( 109 mph ) on regular track . A separate company called High Speed

Two ( HS2 ) Ltd has been set up to investigate the feasibility and viability of a new line likely serving a similar route to the West Coast Main Line .

= = = LGV Picardie = = =

LGV Picardie is a proposed high @-@ speed line between Paris and Calais via Amiens . By cutting off the corner of the LGV Nord at Lille , it would enable Eurostar trains to save 20 minutes on the journey between Paris and Calais , bringing the London ? Paris journey time under 2 hours . In 2008 the French Government announced its future investment plans for new LGVs to be built up to 2020 ; LGV Picardie was not included but was listed as planned in the longer term . It has later been confirmed that LGV Picardie is intended to be built between 2020 and 2030 .

= = = New destinations = = =

The reduced journey times offered by the opening of High Speed 1 and the opening of the LGV Est and HSL @-@ Zuid bring more continental destinations within a range from London where rail is competitive with air travel . By Eurostar 's estimates a train would then take 3 hours 30 minutes from London to Amsterdam . At present Eurostar is concentrating on developing its connections with other services , but direct services to other destinations would be possible . However , the routes that any potential services are likely to take would include infrastructure that Eurostar 's rolling stock has not been built to use ? German railways mostly have 15 kV AC electrification , while the Netherlands uses 1 @.@ 5 kV DC ( except on HSL Zuid and the Betuweroute ) . To operate on these lines would require new or heavily modified rolling stock designed to operate at these different voltages , in addition to those already in use . Signalling systems also differ . In addition to the infrastructure difficulties , any potential Eurostar services beyond Paris and Brussels would also require the installation of stringent security measures , due to the UK 's not having signed up to the Schengen Agreement , which allows unrestricted movement across borders of member countries .

The difficulties that Eurostar faces in expanding its services would also be faced by any potential competitors to Eurostar . As the UK is outside the Schengen Agreement , London @-@ bound trains must use platforms that are physically isolated , a constraint which other international operators such as Thalys do not face . In addition , the British authorities are required to make passenger security and passport checks before they board the train , which might deter domestic passengers . Compounding the difficulties in providing a similar service are the Channel Tunnel safety rules , the major ones being the " half @-@ train rule " and the " length rule " . The " half @-@ train rule " stipulated that passenger trains had to be able to split in the case of emergency . Class 373 trains were designed as two half @-@ sets , which when coupled form a complete train , enabling them to be split easily in the event of an emergency while in the tunnel , with the unaffected set able to be driven out . The half @-@ train rule was finally abolished in May 2010 . However , the " length rule " , which states that passenger trains must be at least 375 metres long with a through corridor ( to match the distance between the safety doors in the tunnel ) , was retained , preventing any potential operators from applying to run services with existing fleets ( the majority of both TGV and ICE trains are only 200m long ) .

On 13 October 2009 the President of SNCF , Guillaume Pepy , outlined plans to expand TGV services around Paris as well as for fleet renewal . A plan to connect LGV Nord , the line used by Eurostar into Paris , with La Défense , a large commercial and business centre in the west of Paris , was described as the " top priority " . Pepy estimated that the connection ( which would also allow interchange to the proposed Paris ? Rouen ? Le Havre LGV line ) would allow a journey time from central London to La Défense of 2hrs 15mins . Guillaume Pepy defined SNCF 's priorities for the future as :

Our dream is to have 12 TGV stations for the 12 million inhabitants of Île de France . Grand Paris would be linked with the European high speed network , to challenge London or Frankfurt .

At the same time as Pepy 's announcement , Richard Brown announced that Eurostar 's plans for expanding its network potentially included Amsterdam and Rotterdam as destinations , using the

HSL Zuid line . This would require either equipment upgrades of the existing fleet , or a new fleet equipped for both ERTMS and the domestic signalling systems used by Nederlandse Spoorwegen . Following the December 2009 opening of HSL Zuid , a London ? Amsterdam journey is estimated to take 4hrs 16mins .

In an interview with Eurostar 's Chief Executive Nicolas Petrovic in the Financial Times in May 2012 , an intention for Eurostar to serve ten new destinations was expressed , including Amsterdam , Frankfurt , Cologne , Lyon , Marseille and Geneva , along with a likely second hub to be created in Brussels .

In September 2013 , Eurostar announced an agreement with the Government of Netherlands and NS , the Dutch railway company to start twice daily services between London and Amsterdam Centraal starting in December 2016 . The service will use the newly bought Siemens Velaro trainsets and will also call at Brussels , Antwerp , and Rotterdam . The journey time will be around four hours . On 13 November 2014 , Eurostar announced the service to Amsterdam would start in " 2016 @-@ 2017 " , and would include a stop at Amsterdam Schiphol Airport in addition to the previously announced destinations . The company also said they would announce border control procedures for the service in January 2015 , specifically whether it would be necessary for passenger to alight at Lille to pass through border control . Eurostar also announced a new service from London to Lyon and Marseille to start in May 2015 .

In December 2012 Eurostar announced that on Saturdays during May 2013 ? June 2013 a new seasonal service would be introduced to Aix @-@ en @-@ Provence , also serving Lyon Part @-@ Dieu and Avignon TGV on the way ( the latter being 6 kilometres ( 4 miles ) from central Avignon ) . This is in addition to the long @-@ standing seasonal summer service on Saturdays during July and August and the first week of September travelling to Avignon Centre . The Aix @-@ en @-@ Provence services did not run in 2014 but was replaced along with the seasonal Avignon Centre services with the new year @-@ round service to Marseille as of 1 May 2015

= = = Competition = = =

In 2010 , international rail travel was liberalised by new European Union directives , designed to break up monopolies in order to encourage competition for services between countries . This sparked interest among other companies in providing services in competition to Eurostar and new services to destinations beyond Paris and Brussels . The only rail carrier to formally propose and secure permission for such a service up to now is Deutsche Bahn , which intends to run services between London and Germany and the Netherlands . The sale of High Speed One by the British Government having effectively nationalised LCR in June 2009 is also likely to stimulate competition on the line .

On 22 March 2010 , it was announced that Eurotunnel was in discussions with the Intergovernment Commission , which oversees the tunnel , with the aim of amending elements of the safety code governing the tunnel 's usage . Most saliently , the requirement that trains be able to split within the tunnel and each part of the train be driven out to opposite ends has been removed . However , the proposal to allow shorter trains was not passed . Eurotunnel Chairman & Chief Executive Jacques Gounon said that he hoped the liberalisation of rules would allow entry into the market of competitors such as Deutsche Bahn . Sources at Eurotunnel suggested that Deutsche Bahn could have entered the market at the timetable change in December 2012 . This , however , did not happen .

On 28 July 2010 Deutsche Bahn ( DB ) announced that it intended to make a test run with a high @-@ speed ICE @-@ 3MF train through the Channel Tunnel in October 2010 in preparation for possible future operations . The trial ran on 19 October 2010 with a Class 406 ICE train specially liveried with a British " Union flag " decal . The train was then put on display for the press at St Pancras International . However , this is not the class of train that would be used for the proposed service . At the St Pancras ceremony , DB revealed that it planned to operate from London to Frankfurt and Amsterdam ( two of the biggest air travel markets in Europe ) , with trains ' splitting & joining ' in Brussels . It hoped to begin these services in 2013 using Class 407 ICE units , with three

trains per day each way ? morning , midday and afternoon . Initially the only calling points would be Rotterdam on the way to Amsterdam , and Cologne on the way to Frankfurt . Amsterdam and Cologne would be under four hours from London , Frankfurt around five hours . DB decided to put this on hold mainly due to advance passport check requirements . DB had hoped that immigration checks could be done on board , but British authorities required immigration and security checks to be done at Lille Europe station , taking at least 30 minutes .

On 6 August 2010 , Trenitalia announced its desire to eventually run high @-@ speed trains from Italy to the United Kingdom , using its newly ordered high @-@ speed trains . The trains will be delivered from 2013 .