History

Key dates

- 12 February 1986: signature of the Treaty of Canterbury between France and the United Kingdom
- 14 March 1986: signature of the Concession Agreement
- 15 December 1987: start of tunnelling works
- 1er December 1990: first breakthrough in the service tunnel
- 6 May 1994: official inauguration of the Channel Tunnel by Queen Elizabeth II and President François Mitterrand
- November 1996: Freight Shuttle fire in Interval 3
- September 2008: Freight Shuttle fire in Interval 6
- December 2009: creation of Europorte subsidiary
- June 2010: acquisition of GBRf

The Channel Tunnel: a vital link in the European rail network

- Eurotunnel, private bi-national company (UK/FR), manages a public service concession:
  - Concession of the Channel Tunnel, its terminals and related installations, and Shuttle transport system

The Channel Tunnel

Technical Characteristics

- 2 separate rail tunnels and a service tunnel, each 50km (30 miles) long, bored at an average of 40m below the sea bed

The Channel Tunnel

Safety

- The service tunnel provides access for evacuation, maintenance or emergency operations
- Two crossovers (allowing passage of trains from one rail tunnel to the other) ensure service continuity when access to a section of the Tunnel is restricted for whatever reason.
Eurotunnel
Two terminals

In France, at Coquelles: 650ha

In England, at Folkestone: 150ha

Groupe Eurotunnel
Structure

- A major player in European transport
- GET SA listed on Euronext Paris and on the London Stock Exchange
- 3,239 employees within the group
  - Eurotunnel: 2,340 employees, 2/3 in FR, 1/3 in the UK
  - Europorte: 600 employees, in France
  - Great Britain Railfreight (GBRf): 299 employees, in the UK

Eurotunnel
Business core activities

- Concessionaire of the Cross-Channel Fixed link
  - Passenger Shuttles (cars, coaches, motorcycles,...) and Truck Shuttles
  - Grants access to passenger trains (Eurostar) and rail freight trains
- Every day in the Tunnel, more than 250 trains, i.e. on average:
  - 21,000 passengers
  - 5,250 cars and 150 coaches
  - 2,500 trucks
  - 27,000 tons of freight

Truck Shuttles

- 770,000 trucks carried in 2009, i.e. equivalent to 10 million tons of freight
- A fleet of 15 Shuttles
- Up to 7 departures per hour in each direction
- World leader in Roll on/Roll off Freight Transport

Passenger Shuttles
Cars and coaches

- 1.9 million cars* and 55,000 coaches transported in 2009, i.e. equivalent to 7 million passengers
- A fleet of 9 Shuttles
- Up to 3 departures per hour in each direction
- 35 mins crossing time
- Leader on the Short Straits market

Eurotunnel Shuttles
Quality of service and advantages

- Shortest crossing time
  - 35 mins crossing time in Tunnel, automatic check-in
- Highest frequency
  - Flexibility to add additional departures, depending on traffic
- Greatest reliability
  - Operations not subject to weather conditions
- Quality of service
  - More than 90% of our customers are satisfied with Eurotunnel service and willing to recommend Eurotunnel
- Most environmentally friendly Cross-Channel operator
**Railways**

- Eurostar passenger trains use the Tunnel to connect London to Paris and Brussels
- 9.2 million* passengers in 2009,

**Freight trains**:
1.18 million tons of freight carried on 2,403 trains in 2009 through the Tunnel

* Number of Eurostar passengers traveling through the Channel Tunnel

---

**Groupe Eurotunnel 2009 Results**

- Net profit: €1.4M despite a difficult business environment
- Revenue: €571.1M* in 2009
- Turnover: €640M
- Operating costs down by 11% at €315M despite increased insurance premiums
- A debt reduced by more than half at €3.65bn** after the financial restructuring
- Dividend maintained
- Strong cash position: €251M at 31/12/2009

* At average exchange rate for 2009: £1 = €1.119
** Nominal value, based on exchange rate of £1 = €1.126 at 31 December 2009

---

**1st quarter of 2010**

- Revenue excluding Europorte: +10% at €130.1M
- Europorte subsidiaries: €14.3M revenue
- Truck Shuttles: +35% in traffic
  - Transport of 15 millionth truck, end of January 2010
- Passenger Shuttles traffic
  - Cars: +17%; Coaches: +19%
- Eurostar: +4% passengers crossing the Channel
- Rail freight trains through the Tunnel: +8%
- Paralysis of air traffic at beginning of April 2010
  - Eurotunnel doubled its capacity
  - More than 200,000 additional passengers through the Tunnel during the period

---

**REVIEW OF THE 1996 and 2008 FIRES**

- 2 major accidents in the Channel Tunnel
  - Very high level of Safety (no injuries)
  - Operational consequences:
    - Loss of traffic during and after the fires
      - 60% in 1996 during the fire repair
      - 30% during 12 months after full recovery
      - 50% in 2008 during the fire repair
      - 30% during 12 months after full recovery
  - Loss of revenue
  - Loss of positive image

---

**November 1996 Fire Renovation Works**

- Resumption of traffic, 7 days (Eurostar & Tourism) 20 days (Freight) after the fire
- Handover of interval 3 by legal authorities
- Complete re-opening of the Tunnel, back to full capacity
- 5 months of work

**September 2008 Fire Renovation works**

- Resumption of traffic, 30 hours after the fire
- Handover of interval 6 by legal authorities
- Complete re-opening of the Tunnel, back to full capacity
- 3½ months of work: record time
### Fires: Conclusions and lessons learned

- **Cost of the fire estimated at between €200M and €225M**, including cost of works of around €60M
- **Insurance**
  - Covers all material damage and operating losses, less the excess
- **Investigations** on-going (2008)
- **Mistakes made:**
  - We failed to take into account the high level of potential occurrence for a truck fire in the tunnel
  - Study and development of an on-board fire suppression system in 1997/1999
    - Was unsuccessful due to complexity of environment in the tunnel (air distribution and velocity), as well as water supply capacity.
- **Lessons learned**
  - Information and safety for our customers:
    - Review of operating procedure and conditions of intervention for fire services (2008)
    - Creation of specially equipped stations in the Tunnel in order to first contain and then extinguish a fire rapidly
    - Work and general study on the future SAFE stations started immediately after the 11/09/2008 fire in parallel with the repair works.

### Creation of Fire Fighting Stations in the Tunnel

- **Location of these new stations**

### Creation of Fire Fighting Stations in the Tunnel

- **Due to technical limitations and the wish to contain the scope of works to an operationally acceptable level.**
  - The SAFE design is based on 3 major criteria:
    - Low consumption of water
    - No major modifications of infrastructure
    - A fully operational system in less than 24 months

### General Planning of Safe Stations

- **Fixed part – (ongoing)**
  - Full scale fire tests in Spain (Jan. to June 2010)
  - Installation of Prototype Station 3F
    - Civil Works (Jan. to Sept. 2010)
    - Validation Tests (Nov. 2010 to Jan. 2011)
- **Conditional part – Previsional Planning**
  - Stations 3 and 4F (France) & 3 and 4U (UK)
    - Civil Works (Sept. 2010 to Feb. 2011)
    - Equipment (Sept. 2010 to June 2011)
    - Tests and Commissioning (Jul. to Aug. 2011)

### SAFE Stations Concept

- **FOGTEC**, part of a consortium is the major actor in the development of the SAFE concept.
  - Max Lakkonen