



Paris–Strasbourg

The project:

More than record-breaking. Innovative rail technology permitting international speed record

On 15 March 2007 the rail route between Paris and Strasbourg was opened with a firework of 300 km length. This 3 minutes were another milestone in the history of successful rail technology. On 3 April 2007, the modified TGV-POS unit 4402 won a new speed record for track vehicles by doing 574.8 km/h. And this with the help of a CuSn contact wire made by **nkt cables**.

Since the start of the regular operation on 10 June 2007, the route LGV Est européenne (short form for Ligne à grande vitesse Est européenne = European High-speed route East) has been used by both France's TGV and Germany's ICE allowing speeds of up to 320 km/h, thus reducing the travelling time between Paris and Strasbourg to no more than 140 minutes.

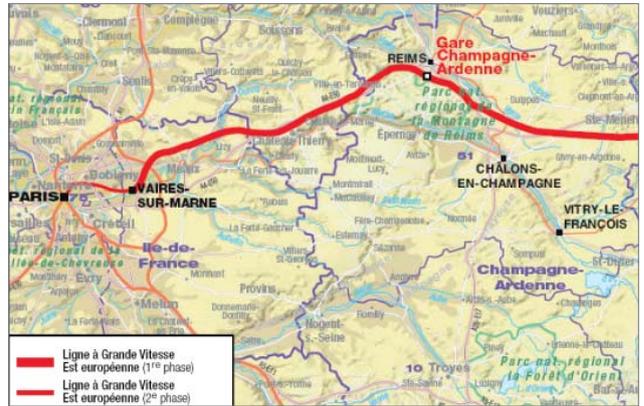
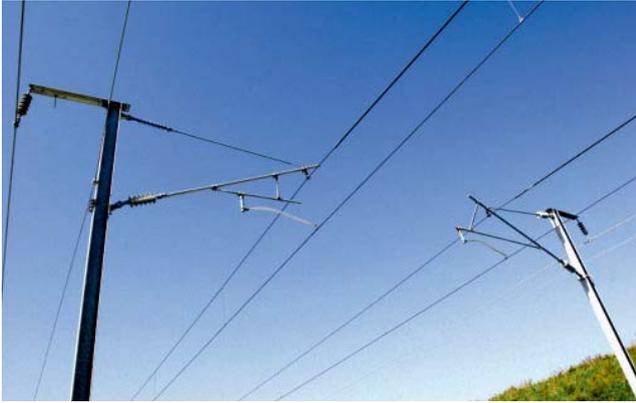
Key Facts:

- New speed record for track vehicles with 574.8 km/h
- 11 million passengers per year
- Length of route approx. 300 km
- Travelling time between Paris and Strasbourg 140 minutes
- Contractor is RFF (Réseau ferré de France)
- Building time between 2002 and 2007
- Put into operation on 10 June 2007
- Total cost approx. 4 billion EUR
- **nkt cables** were awarded the contract by SNCF
- Delivery of approx. 13,850 km of copper-tin contact wire



nkt cables

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The aim:

More mobility in the heart of Europe

The LGV Est européenne is a high-speed rail route in France. France's TGV operates on the so-called South Branch going from Paris via Strasbourg in the East of France to Stuttgart or Munich in Southern Germany whereas the North Branch is used by Germany's ICE going to Frankfurt-on-Main. The LGV

Est européenne is an important section of the trans-European high-speed rail route going via Basel to Zurich and connecting the TEN-rail route No. 17 from Paris to Budapest. The cornerstones of this German-French rail line were defined in the agreement of La Rochelle on 22 May 1992.

The order:

Rail technology to meet highest requirements

As one of only two suppliers worldwide, **nkt cables** was able to meet the extraordinary requirements of this project. Not only the catenary and much of the drive technology was under enormous stress to reach this high speed, but also the current collectors and the network were under maximum contact pressure and extreme strain. **nkt cables** delivered a contact wire with increased voltage tolerance and able to withstand higher mechanical strain. Optimised for this record speed the

trolley voltage had to be increased from 25 kV to 31 kV and the mechanical load of the wire from the standard 25 kN to 40 kN. **nkt cables** manufactured and delivered the copper-tin contact wire with a cross-section of 150 mm². This speed record is an important milestone on the way to create a future-oriented inner-European rail transport network. **nkt cables** is proud of playing a significant role in this new rail network.