

Construction – renewal – maintenance

## Traction and overhead wiring

Strukton Rail's Electric department performs new construction, upgrades and maintenance of everything to do with electric power supply. The broad scope ranges from assembling carrying cables, threading the contact wire and making the connections to switching stations, to erecting gantries and masts and laying foundations. New overhead wiring construction (also for tram and metro) usually occurs together with track laying, either by Strukton Rail or by a third party. We have the equipment, knowledge and people in house to implement any project to the highest quality standards.

### Detailed engineering

From supporting structure to overhead wiring, Strukton Rail has broad experience in the detailed engineering of overall specifications. Strukton Rail is also capable of handling design & construct contracts.

Our strength is in the combination of new construction and maintenance. We take maintenance aspects into consideration as early as the design phase, which pays dividends later in considerable savings on maintenance costs.



### Advanced equipment

Our expert assembly teams work with the latest and most advanced equipment. We have three rail-bound adjustable-height platform wagons, which comply with all safety requirements and are fully equipped for assembling overhead wiring.

We also have five assembly platform vehicles and two Stormobil vehicles, which run on the track or the road. These road-rail vehicles have a hydraulic platform, and can, in case of emergencies, travel by public road.



### Catenary installation machine 'Gemma'

The advanced overhead contact wire renewal train 'Gemma' assures rapid and effective overhead wiring construction and renewal. It is possible to install the catenary and thread the contact wire in a single operation in new construction work, and the same is true for the feeder wire and the earth cable. The Gemma pulls the wires at precisely the right tension, so that the assembly process can start immediately. The on-board recorder makes the quality demonstrable. The Gemma has admission permits for Railed (the Netherlands) and EBA (Germany).



## **Betuweroute**

Strukton Rail's share of responsibility for the Betuweroute construction is substantial. We have built and installed the 25 kV overhead wiring system on the 2 x 120 km track. The scope of the work also included the construction of the overhead wiring in three tunnels and at one junction. The route further includes several connection areas where multiple overhead wiring systems meet. One technically sophisticated exercise was the construction of various voltage locks for the transition from 25 kV to the 1500 V used on normal track.



## **Maintenance of foundations**

Concrete repair for foundations and gantries is one of our specialities. We use injection techniques to extend the lifetime of these elements considerably. This method is far cheaper in many cases than replacement.

## **References**

- Amsterdam – Utrecht (120 km); expansion 2 – 4 tracks; construction of a new overhead wiring system, ready for 25 kV;
- Amsterdam west junction conversion; overhead wiring upgrade, modification and expansion;
- Woerden – Harmelen (60 km); expansion 2 – 4 tracks; construction of a new overhead wiring system, ready for 25 kV;
- Hemboog; construction of complete supporting structure and overhead wiring;
- Betuweroute (220 km), new construction of a complete 25 kV overhead wiring system.