

Antwerp, 9 December 2014

## The Liefkenshoek railway link, logistical gateway to the Port of Antwerp

### Overview of a strategic rail infrastructure project for Belgium and Europe

On Sunday 14 December, Infrabel, the rail infrastructure manager for the Belgian railway network, will open up the new Liefkenshoek rail link to freight operators, when the largest Belgian railway project will go into service after 6 years' work. The Liefkenshoek rail link is a strategic rail connection for freight traffic and rail operators, the Port of Antwerp and the Belgian economy.

#### A strategic rail link to the heart of the port

The Liefkenshoek rail link will improve the flow of traffic between the Waaslandhaven on the left bank (including the rail installations at Deurganck Dock, the largest tidal dock in the world) and the Antwerp North marshalling yard (the second largest marshalling yard in Europe) on the right bank. This will allow trains to run **more quickly and efficiently, travelling directly** between the two banks of the port.

As from 14 December, many freight trains will no longer need to make a detour via bottlenecks (using the Kennedy rail tunnel and Antwerpen-Berchem – Antwerpen-Schijnpoort rail axis). This will also free up **capacity for passenger trains**, improving the flow of traffic on the Antwerp – Ghent rail line, for instance.

In an initial phase, Infrabel **expanded and modernised the rail infrastructure on the Antwerp Left Bank**, including around the Deurganck Dock. This investment of approximately 100 million euros gradually delivered a good 150 kilometres of additional track capacity. However, in order to optimise the management of the expected increase in freight traffic, further investment is required in the Liefkenshoek rail link.

#### A central logistical gateway to Europe

The Liefkenshoek rail link fits in with Infrabel's strategy of **gradually expanding rail capacity in and around the Port of Antwerp** in order to help to support growth. Through a joint strategy with the Port Authority, the Flemish government and the Belgian government, Infrabel aims to increase the share of rail traffic (containers) from the present +/- 8% to 15% by 2030.

Rail and water traffic (the ports) are natural partners and the Liefkenshoek rail link helps to ensure **optimal intermodality**. The Ghent curve (10 million euros) came into service in 2008: a direct rail link in Melsele between Antwerp's Left Bank and the ports of Ghent, Zeebrugge and north-west France.

Other future infrastructure projects, including the second rail access line and the Iron Rhine, are also planned under this strategy to improve access to the ports. The **European rail corridors** provide new access lines and allow interoperable freight traffic across national borders. The Liefkenshoek rail link also represents a true logistical gateway and a major boost for all freight forwarders from Europe and the rest of the world.

#### A model Public-Private Partnership

The Liefkenshoek rail link has been realised through a **Public-Private Partnership (PPP)**, in accordance with the well-known **"DBFM formula"** (Design, Build, Finance, Maintain), without the demand risk being transferred to the private partner. The financial closing and awarding of the construction contract took place on 5 November 2008. **The total investment in the Liefkenshoek rail link amounts to 873 million euros** and includes both works funded by private investment in the PPP (via the project company LOCORAIL NV) and by public investment (Infrabel).

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The PPP covers financing totalling **690 million euros**, partly from **the private partner LOCORAIL NV** and partly from bank loans to LOCORAIL NV, half of which came from the European Investment Bank and half from six commercial banks. The project company was set up by BAM PPP Investments Belgium, CFE NV and VINCI Concessions SA. It financed the civil engineering works as well as being responsible for maintenance and subsequent upkeep. The **Flemish Government** has contributed 107 million euros in order to limit the financial burden within the PPP.

Outside of the PPP, **Infrabel** itself is investing **183 million euros** in the track and signalling installations along the entire route as well as a number of extra safety works. As of 2013, Infrabel is to pay a regular availability fee of around 51 million euros per year for 38 years. This fee covers the reimbursement of the investment as well as maintenance and upkeep by LOCORAIL NV for the entire duration of the PPP.

The Liefkenshoek rail Link PPP, which was awarded the prize for “Infrastructure Deal of the Year 2008” by British magazine PFI, is regularly cited as a model for other public-private partnerships in Belgium and Europe. This is the **second PPP project for Infrabel** following Diabolo (the northern rail connection for Brussels Airport which has been in service since 10 June 2012).

### 16.2-km rail line connects left and right banks

On 12 November 2008 LOCORAIL NV, with the support of the **temporary building consortium THV LOCOBOUW** (consisting of MBG, CEI-De Meyer, VINCI Construction Grands Projets and Wayss & Freytag), started – on behalf of Infrabel – on the engineering work, which lasted until the autumn of 2013. **TUC RAIL**, Infrabel's consulting firm, oversaw all this work and is responsible for the coordination of subsequent railway equipment work.

The route of the Liefkenshoek rail link (16.2 kilometres) begins on the Left Bank **in the South yard**. A 6.7-km track bed links this point of departure with the existing 1.2-km Beveren rail tunnel under the Waaslandkanaal, which is being completely modified and renewed. An open cutting provides the link with the departure shaft at Kallo from where the two tunnel shafts were bored under the Scheldt and canal dock B1-B2.

Infrabel has integrated its rail infrastructure into the surroundings **in a sustainable way** by creating a vast nature reserve of about 52.5 ha (Groot Rietveld) and building several noise buffers around Kallo.

The reception shaft (= the end point of the tunnel bores) on the right bank is linked by an access ramp to the modified rail tunnel (75 metres) under the R2 ring road. A little further on is **the connection with the Antwerp North marshalling yard**, the end point of the new rail link. In total, over half of the Liefkenshoek rail link runs through tunnels.

### Longest rail tunnels in Belgium up to 40 metres deep under the Schelde

Undoubtedly the most spectacular undertaking was the computer and laser-controlled **boring of two single-track tunnel shafts** to a maximum depth of 40 metres under the Scheldt river and the canal dock. These two tunnels were excavated using two tunnel boring machines each 102 metres long. These tunnelling shields made by German firm Herrenknecht excavated an average of 15 metres a day, peaking at up to 45 metres per day.

The lengths of the two tunnel shafts are 5,972 metres (Wiske) and 5,979 metres (Schanulleke) respectively. If you include the entry tunnel (245 metres) up to the departure shaft and the exit tunnel (528 metres) up to the reception shaft, this gives a total length of 6,745 metres and 6,752 metres respectively. This means that the Liefkenshoek rail link has **the longest rail tunnels in Belgium**.

In the summer of 2012, Infrabel started **installing the rail infrastructure**: around 18 kilometres of tracks and catenaries on the track beds and 15.5 kilometres of tracks and catenaries in tunnels. Signalling works along the entire route (requiring, amongst other things, the installation of 50 signals and 244 kilometres of cables) were carried out in order to guarantee the safety of rail traffic.

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## Extensive safety testing of ETCS and the rail infrastructure

At the beginning of 2014, Infrabel started **testing the new rail infrastructure** (including the track and catenaries) for the Liefkenshoek rail link. Since September, training runs have also been organised for the various rail operators so that train drivers can familiarise themselves with the new rail link and all the safety systems.

In accordance with its phased safety strategy, Infrabel immediately installed the **European Train Control System (ETCS)** on the Liefkenshoek rail link, which is also equipped with the GSM-R (GSM for Railways) digital communications network. These systems have undergone extensive testing in 2014, partly using Infrabel's own ETCS test train.

By the end of 2022, the entire Belgian rail infrastructure will be equipped with ETCS, making Belgium one of the **three safest rail networks in Europe**. Approximately 12% (755 kilometres) of mainlines on the Belgian network (6,472 kilometres) currently have ETCS.

## Mix of safety systems in the rail tunnels

The rail tunnels are made of highly fire-resistant concrete and equipped with fire and access detection, cameras, a smoke and heat ventilation system and a **unique automatic foam extinguishing system**. This system can fill a tunnel section with foam in three minutes, a first for European railways.

All of these safety features will be **constantly controlled and observed 24/7 by the control room at Antwerp-Central**. Specialists have also tested the integration of all of these technologies using all kinds of scenario testing.

Walkways, access routes, **evacuation shafts (14) and cross passages (13)** have also been constructed for the emergency services. There is a mandatory escape route every 300 metres along the rail tunnels. During various safety drills this autumn, Infrabel has tested all of these installations and the emergency and intervention plan with the Fire Brigade to the satisfaction of all.

## Authorisation for entry into service and official opening

All of these tests are mandatory requirements prior to **authorisation being granted for the new rail infrastructure entering service**. This authorisation will be granted by the Belgian Rail Safety and Interoperability Service (DVIS), following certification by the independent body Belgorail based on the safety dossier provided by Infrabel.

On **Tuesday 9 December** the new Liefkenshoek rail link will be officially opened. This will take place in the presence of the CEOs and representatives of the various partners (LOCORAIL NV, THV LOCOBOUW, Infrabel, Antwerp Port Authority, SNCB, TUC RAIL).

From **Sunday 14 December**, thanks to the new rail infrastructure, freight operators will be able to travel faster directly between the left and right banks... and **the Liefkenshoek rail link will go into service**.

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*Infrabel is the public limited liability company responsible for the management, maintenance, renewal and development of the Belgian rail network. The company is also responsible for the allocation of train paths to all Belgian and foreign operators. The specific structure of Infrabel's shareholders ensures complete independence. Infrabel was established on 1 January 2005 following the division of the Belgian railways. The company employs around 12,500 people at present and achieves a turnover of around 1 billion euros (2013).*

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