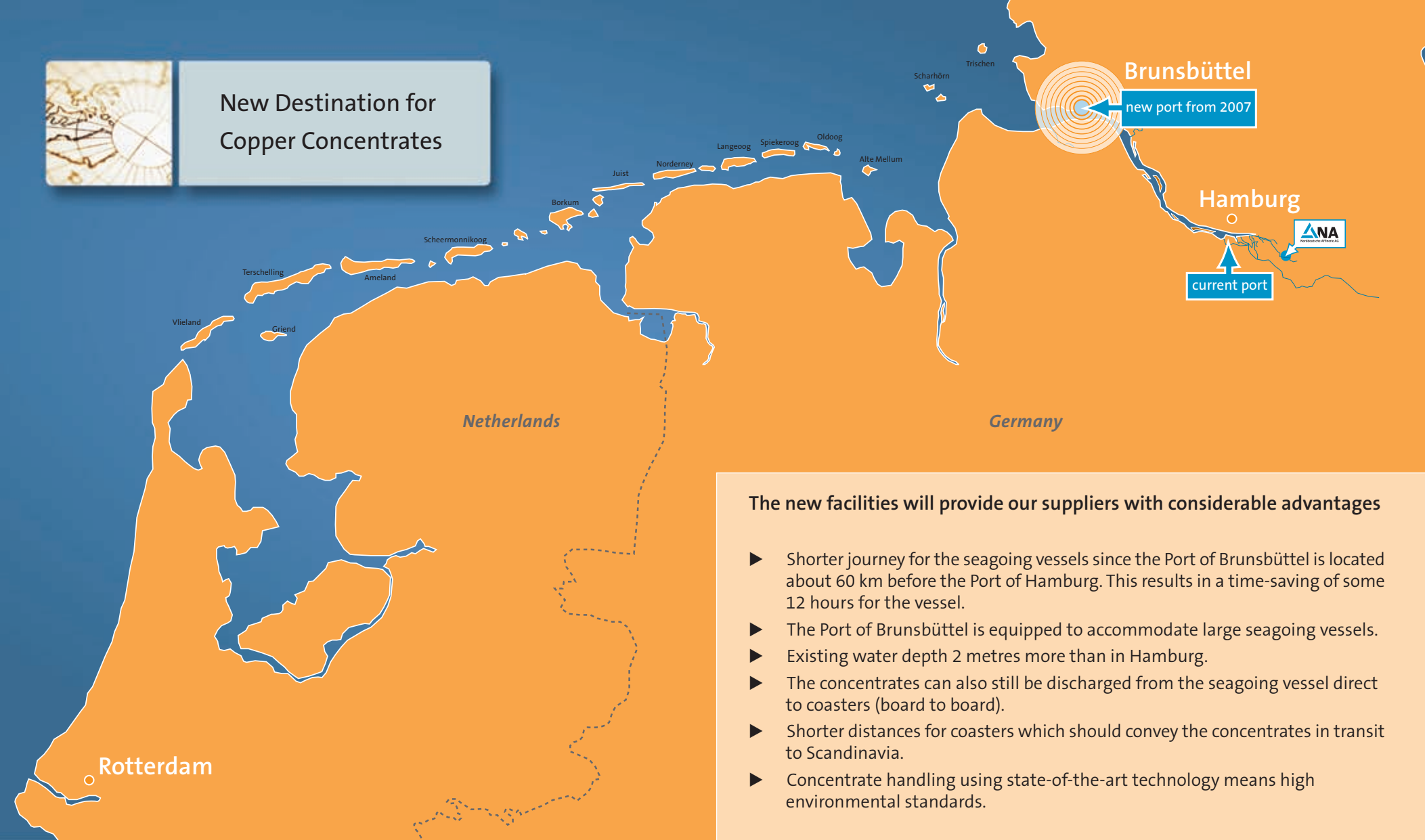




## New Destination for Copper Concentrates



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### The new facilities will provide our suppliers with considerable advantages

- ▶ Shorter journey for the seagoing vessels since the Port of Brunsbüttel is located about 60 km before the Port of Hamburg. This results in a time-saving of some 12 hours for the vessel.
- ▶ The Port of Brunsbüttel is equipped to accommodate large seagoing vessels.
- ▶ Existing water depth 2 metres more than in Hamburg.
- ▶ The concentrates can also still be discharged from the seagoing vessel direct to coasters (board to board).
- ▶ Shorter distances for coasters which should convey the concentrates in transit to Scandinavia.
- ▶ Concentrate handling using state-of-the-art technology means high environmental standards.

### Concentrate deliveries for Norddeutsche Affinerie AG (NA)

As already announced last year, NA is arranging to have copper concentrates destined for its Hamburg smelter discharged from the seagoing vessels and temporarily stored after sampling in the Elbe port of

Brunsbüttel instead of in Hamburg City as of 1 January 2007. Furnace-ready blends will be transferred direct to the smelter in Hamburg on two specially designed barges in shuttle service.

## State-of-the-art technology

The copper concentrates are unloaded from the seagoing vessel by a portal rotary crane that is fitted with a special grab. The concentrates are transferred by the grab into a bin with a special facility to ensure that the dust emissions are kept as low as possible.

This portal rotary crane is also used for discharging the transit quantities board to board.

The concentrates are taken from the bin via a new conveyor belt system to the weighing bin with sampling facility and then transported into the new storage hall.

The conveyor belt systems and transfer stations are covered or enclosed to make them dust-proof.

The weighing facility consists of three modules: the initial bin, weighing bin and final bin. Some 12 tonnes can be weighed in a single cycle.

The copper concentrates are sampled from the discharge belt. Every five seconds a 60 cm<sup>3</sup> raw sample is taken from alternating sides by two separately located sampling spears. These are then weighed on a precision weighing device in a cycle time of about 4 minutes. The samples are dried at 105 °C until they have a consistent weight to determine moisture content. During the subsequent preparation, the agglomerates are crushed and then the raw sample tapered to about 1.5 kg by a rotary cylinder divider.

After screening to < 0.16 mm – oversize particles are crushed – the sample is homogenised by mixing and then divided into the required number of laboratory samples. An automatic laboratory divider is used for this final step.

The sample preparation facilities and switch and computer rooms are located in buildings directly connected with the sampling facilities.

Weighing, sampling, preparation and documentation are performed using state-of-the-art technology. The analyses of the materials will be done in the usual reliable manner at our plant in Hamburg.

## Concentrate storage facilities under construction





**The existing delivery clauses only need to be amended slightly.**

Some amendments are necessary due to the local conditions which are reflected in the contract wording. The main amendments based on our standard clauses are given in the following:

**Delivery:**  
CIF Brunsbüttel instead CIF Hamburg.  
Otherwise unchanged.

**Date of Arrival:**  
Passing “Pilot Station Hamburg-Finkenwerder” shall be replaced by “has berthed at her designated berth at Brunsbüttel, finished with engine / all fast”.

**Shipment:**  
The following sentence can be deleted since only one crane will be used:

„If the size of each hold used is less than approximately 23.0 x 23.0 metres, quantities of Material larger than 8,000 wet metric tonnes shall be stowed in at least two simultaneously workable holds.“

The vessel must not exceed a maximum length of 250 metres overall (instead of 220/230 metres).

A maximum beam of 40.0 metres (instead of about 32 metres) is acceptable if no cargo is on board for discharging from the seagoing vessel into coasters (transhipment). Otherwise the beam must not exceed 32.2 metres.

The draught on arrival at port Brunsbüttel must not exceed 14.00 metres fresh-water (instead of 11.00 – 11.50 metres).

Notice of Readiness shall be given to Buyer's receiving agent at any time, but Sundays and legal and local holidays are excepted. If Notice of Readiness is tendered during a Sunday or legal or local holiday, it shall be treated as if it had been given at the commencement of next working day.

Laytime shall commence to count 12 hours after Notice of Readiness has been given. The weekend stipulation remains unchanged.

All other general conditions remain unaffected.



View of the Port of Brunsbüttel



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## The next steps to be taken

We will keep our suppliers regularly informed on progress with the work on the new facilities until commissioning at the beginning of 2007.

If you have any questions, please do not hesitate to contact us.



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