

## Vysotsk: the rising star

The dredging work scheduled for 2007-09 at Vysotsk coal terminal on the Gulf of Finland will significantly boost its profile. The increase in deadweight capacity from 19,000t to 40,000t will raise the port's competitiveness through lower freight costs and higher throughputs.

Vysotsk will gain in importance in the Baltic region as the neighbouring port of St Petersburg may stop handling coal in a couple of years and the two terminals at Riga — which are facing costly relocation programmes — may choose not to invest in new construction. Vysotsk is attractive for coal exporters compared with the terminals of the Baltic states due to a lower rail tariff and the tendency by Russian railway operator RZD to ensure cargoes go to Russian ports first.

With Russian coal exports growing, the future is bright for Vysotsk and this was confirmed by large companies' interest in buying the coal terminal from Rosa Holding. But Vysotsk reserves the possibility of switching to other cargoes and prefers to employ equipment that can be used for other cargoes as well as coal.

The port of Vysotsk is located in Vyborg bay, eight nautical miles from the port of Vyborg. The settlement of Vysotsk has a population of just 1,700. In 2004, Lukoil put into operation a product terminal nearby, but it was built entirely separate from the existing port facilities and Lukoil provided the dredging and rail infrastructure expansion on its own (see map).

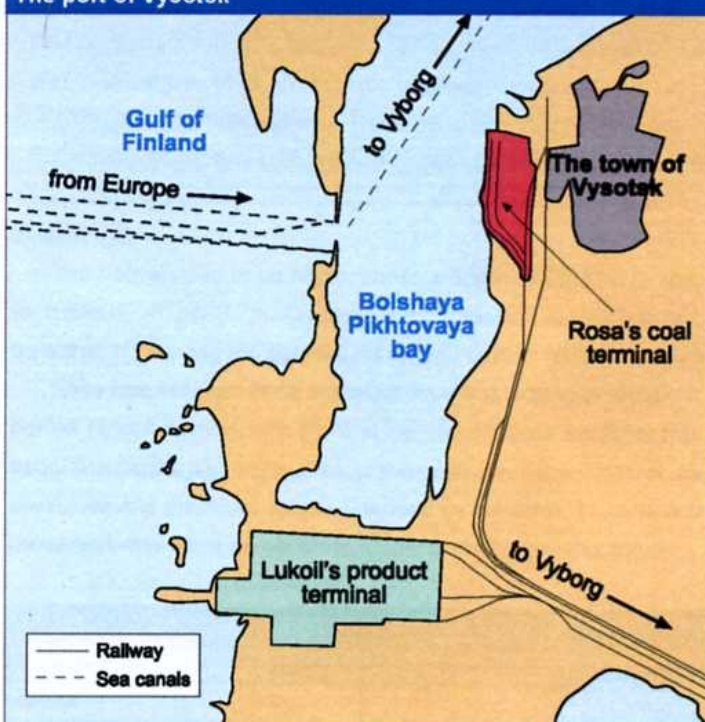
Rapid growth of coal exports in 2006, which quickly stretched the infrastructure capacity at Russian ports, turned around the fortunes of Vysotsk coal terminal. At the start of 2006, Rosa Holding was lobbying for an exclusive discount on rail tariffs for coal transportation to Vysotsk, fearing that otherwise the terminal would be unable to attract sufficient cargo flow. But high international prices made coal exports highly profitable even at current rail rates, with clients queuing at Vysotsk. As a result, last year the port handled 4.09mn t of coal, which became its sole cargo (see table).

The port could have handled more volumes if it were not for the railcar problems that plagued coal exports in 2006, Vysotsk's director of operations, Igor Sennov, says. Following repairs and upgrades carried out at Vysotsk in 2005, the terminal can handle 4.5mn t/yr of coal.

In 2005, Rosa replaced the aged rail tracks at the terminal and the electricity supply infrastructure to eradicate blackouts. The storage area was expanded and heated buildings constructed for staff and equipment maintenance. The firm also bought two hydraulic manipulators for coal unloading to improve the unloading rate and avoid the damage of railcars by cranes with clamshell grabs.

Rosa is continuing to improve the terminal. Last year, one more rail track was added at the terminal to expand access to storage areas. The work on linking berth 4, which used to be separate, to the other berths was completed in January this year. Following the transfer of berth 4 under the management of Rosa, the firm con-

The port of Vysotsk



nected the rail tracks and crane tracks serving this berth with those serving berths 1-3. This allows the company to move cranes freely between the berths and free up additional space for storage.

### Storage

Vysotsk coal terminal can store 200,000t of coal, including 120,000t at the berths and 80,000t at the back of the terminal. Three lines of rail tracks provide convenient access to all storage areas. The terminal has two railracks for unloading coal through bottom slots. Coal from the railracks has to be loaded on to trucks for transportation to the storage areas.

Vysotsk throughput						'000t
	2001	2002	2003	2004	2005	2006
Total	3,178.1	3,105.3	2,404.5	3,644.3	3,516.9	4,085.5
Coal	2,999.3	2,445.3	2,053.9	3,087.4	3,499.0	4,085.5
Iron ore	178.8	660.0	350.7	557.0	17.9	-



The terminal has pledged to unload 178 railcars/d based on its agreement with Oktyabrskaya railway, but can often handle more. From this month it plans to unload 200 railcars/d, ensuring 400,000 t/month of loadings.

Magnetic cleaning is provided by the terminal but not sorting or crushing. There is no need for crushing as coal is supplied in fractions that suit the customers' needs.

The terminal lacks any heating facilities for dealing with frozen coal in winter. Plans to build such facilities have stumbled over problems with getting additional electricity supply. In 2006, electricity shortages in the Leningrad region were assessed at 4pc of installed capacity.

Vysotsk warns its clients not to supply coal with excessive moisture content, prone to freezing in winter. This warning appears to have worked — in February, when all Russian ports suffered from problems with unloading frozen coal and railway restrictions, Vysotsk was a rare exception. "We received no frozen coal," Senov says. The port's three clients are Suek, Mir-Trade and Rosa's trader Carbolux.

The port has four berths but can only accommodate three 20,000t vessels simultaneously because of the limited total length of the berths.

When dredging starts next year, Vysotsk plans to take the berths out of operation one by one. This means it can only have two clients in 2008 as the terminal will be able to accommodate only two vessels at a time. But the management hopes that the terminal will be able to preserve its overall throughputs at a level

## The port's history

Vysotsk (Trongzund) was first mentioned in 1640 as a Swedish customs point.

For hundreds of years, Vysotsk served as a preliminary point for the port of Vyborg. At Vysotsk, cargoes from Vyborg could be switched from smaller onto bigger vessels.

At the beginning of the 20th century, Vysotsk served as the largest timber harbour for Finland. After the second world war, when the territory was made part of the Soviet Union, Vysotsk shipped apatite from Kola peninsula. But at the start of the 1960s port activity was stopped.

Vysotsk was restored in the 1980s with new berths built and new equipment installed, but until 1994 the terminal was part of the port of Vyborg. In 1995, Vysotsk was registered as a separate port.

The port was purchased by Rosa Holding in 2003 along with the port of Vyborg and coal-producing assets in Kuzbass region.

of 4mn t/yr.

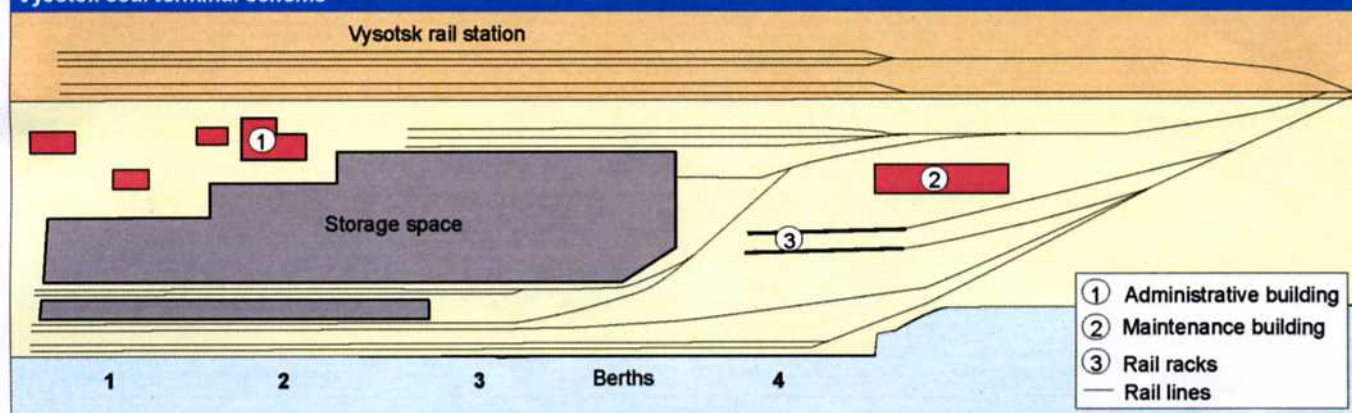
The berths need to be reinforced to a depth of 18-20m to allow for a sea depth of 12.7m. On completion, the draft restrictions will be set at 10.5m and the port will be able to handle 40,000t vessels.

Rosa has ensured state financing for the dredging and the berths' reconstruction, with the first tranche of funds available this year. The berths and water area of the ports are owned by the Russian state and therefore can be financed by the state. But terminal owners always have an option to invest in improvements them-

Vysotsk: main data	
Area	34 hectares
Number of berths	4
Total length of berths	683m
Draft	9.3m
Storage	200,000t
Loading rate	6,000 t/d

Vysotsk terminal equipment	
Equipment	Amount
Cranes	11
Hydraulic manipulators	2
Mobile loading machines	10
Locomotives	4
Coal cleaning machines	7

Vysotsk coal terminal scheme





selves and afterwards get the money back through tariffs.

Vysotsk has been allocated over Rbs2bn (\$77mn) throughout 2007-09. This year the design work will be carried out, with most of the construction scheduled for 2008.

At the same time, Rosa plans to invest in new equipment. By 2010, 80pc of the cranes will be replaced, with the new ones having a wider span — of up to 36m — to load bigger ships. Another bridge-type hydraulic manipulator will be added before the end of this year.

On the completion of the dredging, Vysotsk's capacity is set to reach 5mn t/yr thanks to being able to handle bigger vessels and load at a faster rate. The second phase of reconstruction could double the terminal's capacity through construction of another two berths. The area for new construction is available, but this phase would require investment by the terminal owner. The engineering design of the second expansion phase to boost capacity to 10mn t/yr has already been prepared.

### Railway problems

The rapid development of the ports on the shores of the Gulf of Finland is putting stress on railway infrastructure.

The port of Vysotsk is serviced by Vysotsk rail station. The railway between Vysotsk and nearby Pikhtovaya rail station lacks electricity supply. As a result, at Pikhtovaya arriving trains need to change locomotives from electric to diesel. Russian railway operator RZD has completed the construction of facilities for electrical supply of the stretch from Pikhtovaya to Vysotsk, but needs to get a permit for buying additional electricity.

Lukoil, whose cargoes reach its Vysotsk product terminal on the same rail line as the coal, has expanded the stretch from Pikhtovaya to Vysotsk and laid four rail tracks in addition to the fifth used for trains going to the coal terminal. But the extra tracks can only be used for storing and transporting cargoes destined for Lukoil's terminal.

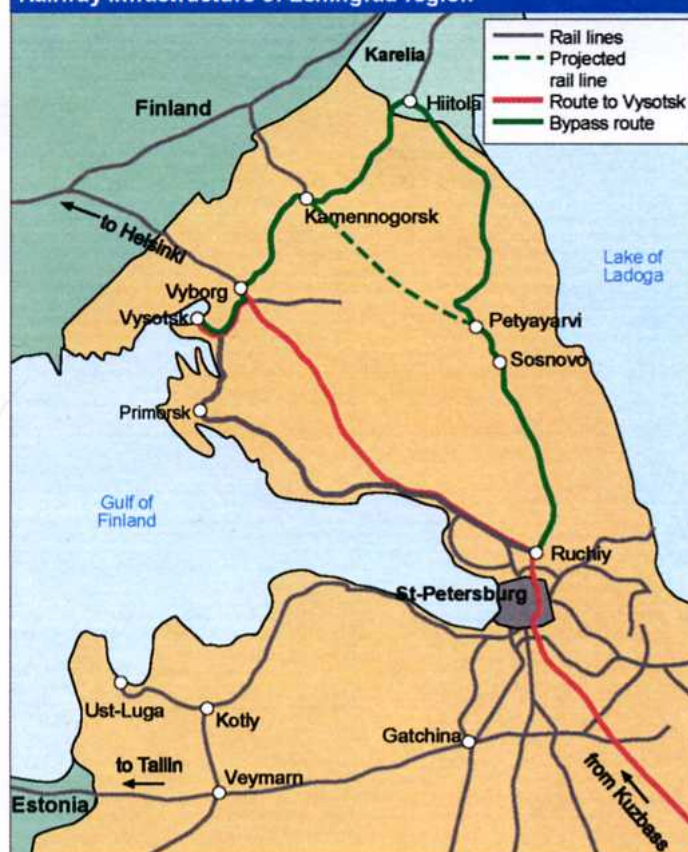
RZD is currently preparing bypass routes for cargo transportation to Vysotsk after the planned launch of high-speed passenger traffic between St Petersburg and Helsinki.

From 2008, RZD plans to switch the cargo traffic to the route going through Ruchyi-Sosnovo-Hiitola-Vyborg (see map). The route is in need of upgrade as it is not electrified and has just one track at some stretches. Another possible bypass route runs along the shore of the Gulf of Finland and is also expected to undergo reconstruction in the future.

After the reconstruction, RZD is expected to be able to transport 6mn-7mn t/yr of coal and 15mn t/yr of products to Vysotsk.

By 2010, when the cargo traffic increases, RZD plans to construct a new railway link between Petyayarvi and Kamenogorsk (see map).

### Railway infrastructure of Leningrad region



### Useful contacts:

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### Conference

#### CIS coal summit

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