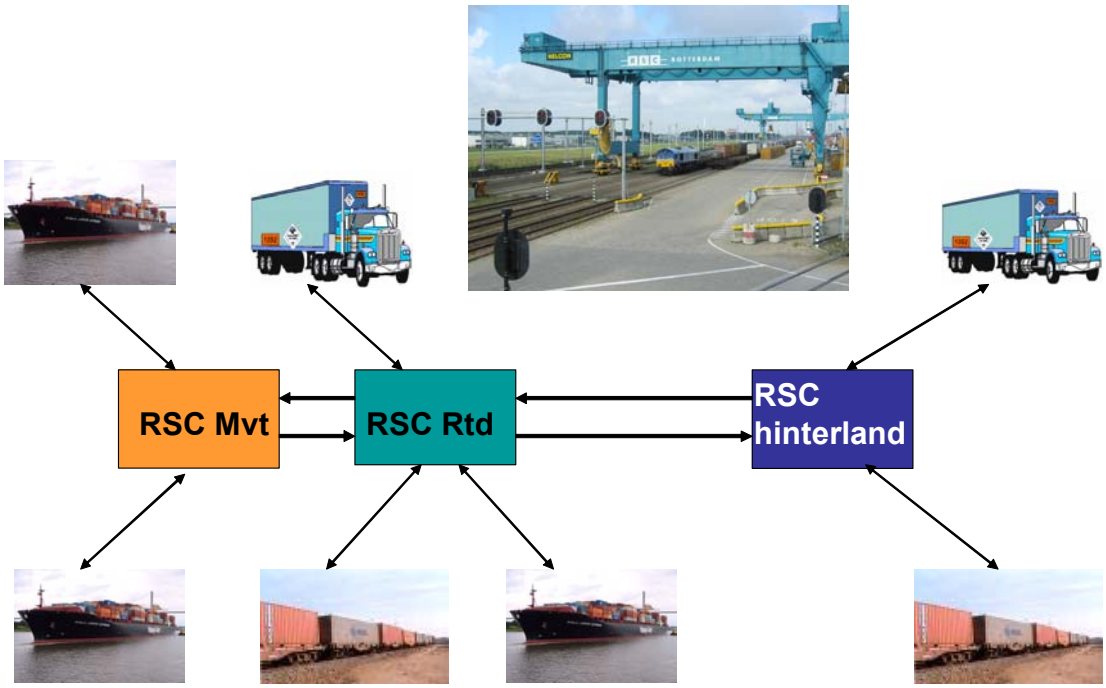
2.6 Separation of rail-side and road-side handlings

Description

The terminal Rail Service Centre (RSC) Rotterdam handles containers, swap bodies and semi-trailers. About 40 per cent of its volume is generated by the neighbouring container port terminals, while 60 per cent of the units are delivered or collected by road vehicles. The terminal is situated next to the port railway line (”Havenspoor”) with double-side access for the trains at least in one of two modules. Some of the trains are shuttle services between the hinterland terminals and the RSC Maasvlakte with only a short staying time in the RSC Rotterdam (“opstap-shuttles”/liner trains calling at more terminals during their journey).

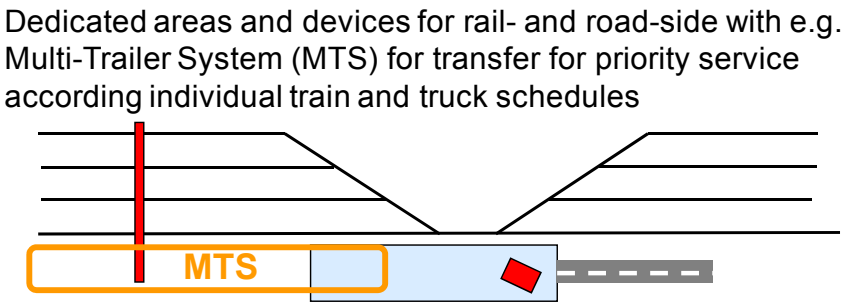
Figure 12: Train operation system of RSC Rotterdam



Source: RSC Rotterdam

In order to maintain the trains’ schedules the rail-side and the road-side handling as well as the stacking area were separated. The rail-side handling is effected by four rail-mounted gantry cranes (RMG). The “customer area” of pick-up and delivery road vehicles, the internal transfer between customer and transshipment areas and the stacking areas, however, are served by six mobile reach stackers and five terminal trucks with articulated multi-trailer-system (MTS).

Figure 13: Separation of handling services



Source: KombiConsult analysis

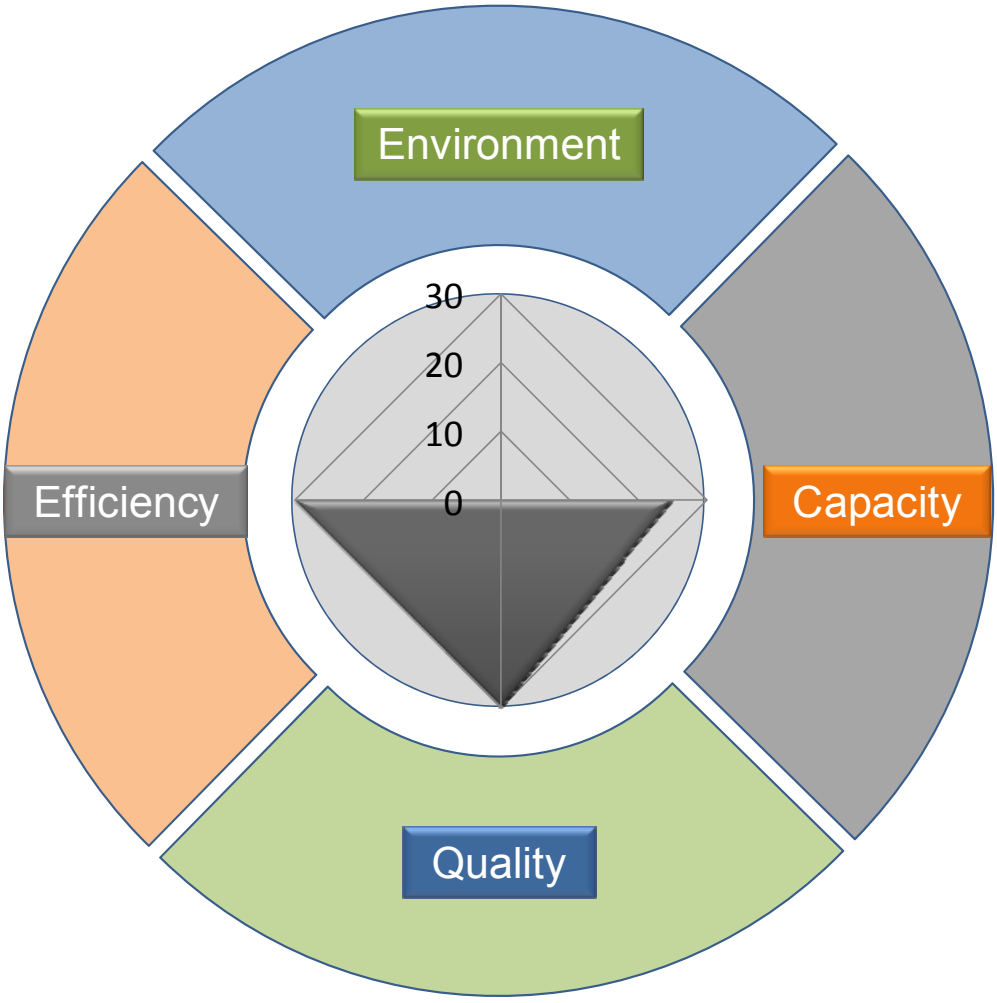
Prerequisites and implementation

The system requires large throughputs that justify several handling equipment, a certain quantity of stackable loading units – e.g. like they are used in maritime hinterland transports – to realise a train schedule with short staying time and multiple track occupation so that the number of life lifts (direct transshipment form train to truck vv) are small.

Impacts and benefits

The enforcement of this system including the separation of services in conjunction with the shuttle concept the rail-side handling capacity could be increased by approx. 25 per cent.
RSC also claims to handle the trains according to timetable if they arrive on time and reports that 80 per cent of all trucks are served within 30 minutes. Thus the quality of service is raised due to less influence between the two transport modes.

Figure 14: Impact of the measure "Separation of rail-side and road-side handlings" on the four main goals



Source: KombiConsult analysis

Costs

The costs include sufficient buffer space and internal means of transportation (e.g. MTS) as well as trained personnel and a terminal management system able to follow a consignment within its movements in the terminal.

Involved Parties

- Terminal owner, with respect to size, shape and investments needed
- Terminal operator, with respect to managerial capabilities

Conflicts of goals

A large number of internal movements – in-build double or treble handling – needs to be compensated by very high performance required at the road and at the rail side.

The dwell time of a loading unit in the terminal is higher than in ordinary rail-road terminal since the internal movement between rail and road via MTS and a buffer area requires extra time both in pick-up and delivery. Therefore the lead time before and after train arrival might be higher, or “fast lanes” with direct access to the loading tracks have been installed for non-stackable and “urgent” cargoes.

References

- RSC Rotterdam