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M. de Jong *Ontwikkelingen in de binnenvaart* Literature survey, Report 2000.LT.5317, Transport Technology, Logistic Engineering.

Inland shipping is already existing for a long period. It is actually one of the first methods of transport. For a long time there where little developments of the ships. In certain periods the developments were more frequent. For example during the Roman era. It was not until the industrial revolution that the new developments followed each other rapidly. Ships grew bigger because of the introduction of steam engines enabling ships to carry heavier loads. In the twentieth century the competition the inland shipping had to face grew stronger as the truck came into use.

Nowadays the inland shipping sector is of great importance to the Dutch economy. Not just because of the earnings of the sector, but also because of the problems with road traffic (congestion, environment). Those are also the reasons for the Dutch government to take measures to reduce the share of road transport in benefit of inland shipping and railways. The government is also taking actions to decrease the number of ships and thereby preventing a crisis, like in the beginning of the century, due to overcapacity. Some of the important developments in the second half of the twentieth century are:

- Containerization and the development of inland terminals;
- The development of specialized ships like Ro/Ro ships;
- The transports of cargo with push barges.

The last couple of years there have been some important developments in inland shipping. The first development is the size of the ships. With the Jowi and the Amistade a whole new class of large ships has been put into service. These ships have a length of 135 meters en are 17 meters wide. They are able to transport up to 470 twenty feet containers. A second development is the design of small ships. These ships are intended for transportation over relatively short distances. There are also ships designed for fast inland transport. These ships have to compete with trucks on short distances. A recent development is a new way of propelling, the so-called Whale Tail Wheel. This system does not use screw propellers anymore. Instead it uses a rotating drum.

In the market situation of inland ships there are a number of developments. An important development is the liberalization of the market for North-South shipping. This brings an end to the shipping-exchange that was introduced in 1933. This is not the only development. Inland ships transport more kinds of goods. This diverges from containers to bulk goods and from chemical products to household garbage.

The modifications in the infrastructure mostly concern the construction of a network of inland terminals. This will benefit the multimodal transportation. The waterways are also subject to new developments. On the larger waterways a system has been installed to control the shipping traffic. This system cooperates with the information systems that have been taken in use on the ships.

In the future transportation with inland ships will increase. Because of growing prosperity people will consume more and so the need of transport will grow.

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