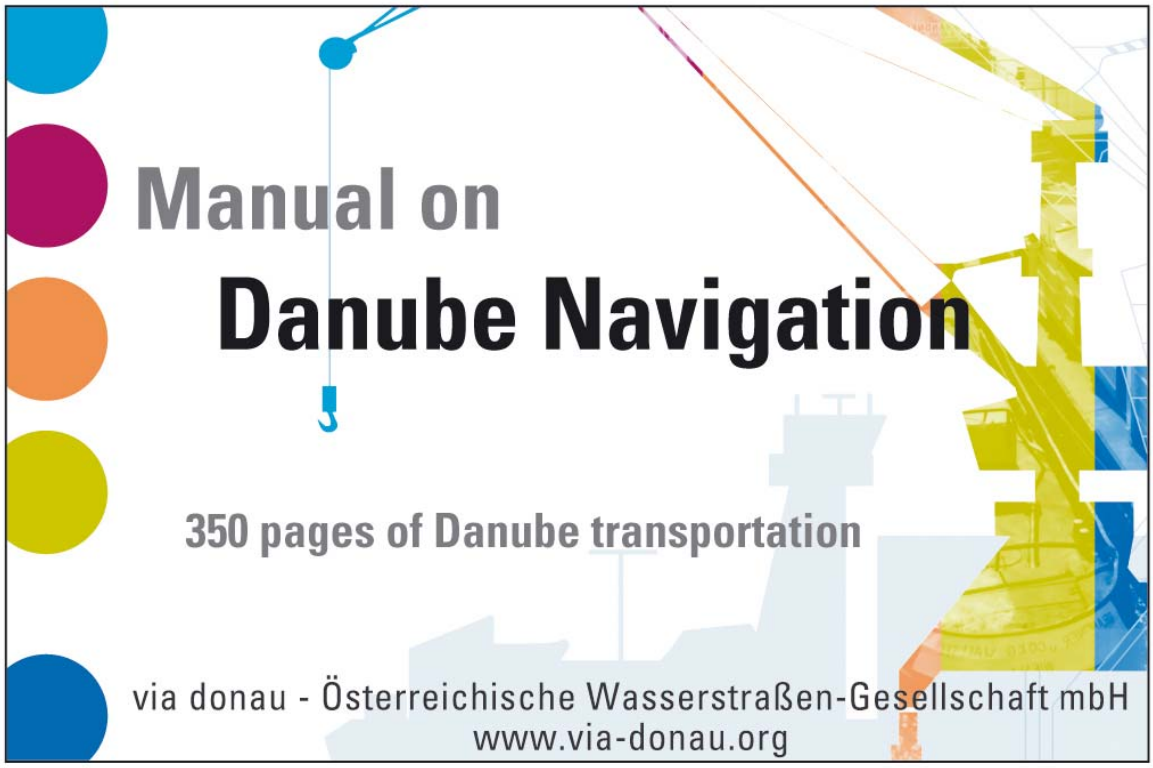

Manual on Danube Navigation

Excerpt: chapter B3 Examples for the successful use of Danube Navigation

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B3 EXAMPLES FOR THE SUCCESSFUL USE OF DANUBE NAVIGATION

Inland waterway transport in the classic sense signifies the shipment of mass goods, such as coals, ore or mineral oil products. In the last few years close cooperation with the shipping industry and forwarders has expanded its uses to include high-grade packaged cargos, such as paletted goods in containers. This strategic reorientation has also been accelerated by the general modernization trend in inland waterway transport thanks to innovative logistics and telematics solutions.

B3.1 Scheduled Transport Services

Traditionally, shipping via inland waterway is done according to supply and demand either as a *contract shipment*, several journeys on the basis of a contract for a specific period, or on the *spot market*, in other words on the basis of a short-term agreement for individual ship cargos. These shipments are characterized by the following:

- Transport of complete cargos of approximately 1,000 to 4,000 t using motorized vessels or push convois
- Generous time frames regarding departures and arrivals
- Transport of the freight between the loading and unloading port
- Involvement of a consignor and a receiver

However, more complex demands are placed on modern logistics systems. In light of falling consignment quantities and the rising number of suppliers and buyers, a high degree of punctuality and reliability in departure and arrival times is expected. Traditional inland waterway transport cannot meet this requirement.

New possibilities, such as *scheduled intermodal transport services*, are a solution. Like passenger ships, scheduled transport vessels travel according to a fixed schedule, stopping in certain ports where the cargo is transhipped to road or rail for further transport. Intermodal scheduled services form the main link in modern logistics chains on the waterway (the “long leg of the journey”) between the supply and demand markets. The “first mile” from the consignor to the loading port or the “last mile” from the unloading port to the receiver is completed by road or rail transport depending on the given infrastructure and the economic possibilities.

Scheduled transport services on the waterway offer the customer key advantages:

- Regulated departure and arrival times according to schedule,
- Maintenance of scheduled services even despite nautical impediments, e.g. with substitute transport by road or rail,
- Regular service to at least three ports,
- Operation all-year-round and
- Broad access for interested companies.

The design of the vessels and the methods for loading push convois allow various goods to be shipped at the same time (conventional cargo, containers or roll-on/roll-off goods) and help to even out *imbalances* on the travelled routes.

A transport chain with the inland vessel performing the main haulage requires at least two transhipment points (in the loading and again in the unloading port), as well as pre and end haulage either to or from the transhipment points. Planning and carrying out these supplemental activities can be facilitated considerably by using comprehensive databases accessed by web-based portals.

In the first half of 2004 the German shipping and port operating company of Gebrüder Väth Reederei und Hafenbetriebe KG in Würzburg set up a scheduled transport service between Nuremberg (Germany) and Ruse (Bulgaria) operating two identical vessels of a completely new type. The company offers weekly departures with stops in Kelheim, Straubing, Linz and/or Enns-Ennsdorf, Belgrade, Turnu Severin, Giurgiu and Ruse. The make of vessel used on this scheduled route is capable of transporting dangerous cargo, dangerous goods containers and refrigerated containers. The cargo hold has capacity for containers and swap bodies or bulk cargo in closed lots starting from 250 t each. To guarantee the highest degree of flexibility, the vessels are equipped with a load-bearing deck with hatches for loading up to 900 t deck cargo, which can be made up of swap bodies or containers, or even packaged cargo lots starting from 20 t, heavy cargo up to nine metres wide and 80 metres long, as well as other types of machinery. The scheduled service offers in any case a less expensive and secure alternative to land transport.

http://www.vaeth-kg.de

MS Inn, one of the special vessels operated by the shipping company Gebrüder Väth and used on the scheduled transport route Nuremberg – Ruse

Source: Gebrüder Väth

The international forwarding agent Willi Betz GmbH & Co. KG from Reutlingen, Germany, operates a scheduled transport route from self-rolling cargo, such as semi-trailers, motor tractors and other vehicles, with four of its own catamarans and two roll-on/roll-off barges between Passau in Germany and Vidin in Bulgaria. Stops in ports can be arranged according to the cargo volume; departures sometimes take place several times a week. The scheduled service run by Willi Betz is like a “floating motorway”, making it possible to circumvent the at times poorly maintained transport roadways in Southeastern Europe and thereby considerably boosting transport safety and security.

http://www.willibetz.de

B3.2 Success Stories

The following section describes seven transport case studies in which the demands of the shipping industry were met perfectly by inland waterway transport.

Case 1: Steel Coils

Logistics service providers:

ILL – Industrie Logistik Linz GmbH, Mierka Donauhafen Krems GmbH & Co KG, Logserv Logistik Service GmbH (a company of voestalpine AG)

Inland waterway transport companies: Multinaut Donaulogistik Gesellschaft mbH (Krems – Linz), MSG Mainschiffahrts-Genossenschaft eG (Linz – Antwerpen)

Time period and frequency of transports: At least twice a week since May 2003

Route : Krems – Linz – Antwerpen **Cargo:** Steel coils

Within the context of the EU technology project ALSO Danube, the integration of the Danube waterway in modern house-to-house logistics chains using innovative information technologies was studies and tested. Two *just-in-time logistics chains* were set up to demonstrate the project results. Steel coils from the production site in Linz (Upper Austria) were shipped to Krems (Lower Austria) and Antwerp via the Danube with great success. Since the conclusion of the project in May 2003, both transport routes have been operated commercially on a regular basis.

Information is the absolute key to this success story. As the house-to-house logistics chain Linz – Antwerp involves several different companies, the competent Belgian forwarding agent transintra/Sealift NV is faced with considerable coordination duties. A logistics database makes it possible to network the traffic management systems of all of the participants and to synchronize the processes along the entire intermodal logistics chain. Managing and being able to trace the flow of information exactly is but one aspect; switching cargo and carrier, necessary under certain circumstances, between the port of Linz and the maritime port of Antwerp is another key factor.

http://www.ill.co.at
http://www.mierka.com
http://www.sealift.be
http://www.msgeg.de
http://www.voestalpine.com/stahl
http//www.voestalpine.com/logserv

Transhipment of steel coils to the inland vessel at the transhipment facilities of Industrie Logistik Linz GmbH

Source: via donau

Case 2: Dusty Cargo

Logistics service provider: Gebrüder Väth Reederei und Hafenbetriebe KG

Inland waterway transport company: Gebrüder Väth Reederei und Hafenbetriebe KG

Time period and frequency of transports: Approx. once a week since 1998

Route: ARA ports – Danube ports – Romanian, Russian and Turkish ports on the Black Sea

Cargo: Fly ash, bauxite, sodium bicarbonate

The Germany company of Gebrüder Väth Reederei und Hafenbetriebe KG have been transporting large quantities of raw materials and dusty cargo, such as fly ash along the Rhine-Main-Danube waterway between ARA ports and the Black Sea on a regular basis since 1998. Stops are made in the inland ports along the Rhine, Main and Danube, as well as in Romanian, Russian and Turkish maritime ports on the Black Sea in cooperation with partners from maritime and costal waterway transport.

Four vessels have been fitted with special equipment, such as silos and pneumatic equipment, for transporting dusty cargo. The dusty cargo is blown into the vessel's cargo hold under pressure. This transhipment method prevents dust from building up, minimizing the potential damage to the crew and the environment. The cargo is also protected against moisture and can also be transhipped in the event of rain. If necessary, the freight can also be transhipped problem-free to railway cargo wagons for further transport from the unloading port.

http://www.vaeth-kg.de

Special vessels for dusty cargo

Source: Gebrüder Väth

Case 3: Wind Power Stations

Logistics service providers: Haeger & Schmidt International GmbH, Wiener Hafen Lager- und Umschlagsbetriebe Gesellschaft m.b.H., Prangl GmbH

Inland waterway transport companies: Haeger & Schmidt International GmbH (a company of the Belgian railway company SNCB – Société Nationale des Chemins de Fer Belge)

Time period and frequency of transports: May to June 2003, 20 inland vessels for one transport contract

Route: Magdeburg – Vienna **Cargo:** Wind power stations

The enormous dimensions and weight of wind power stations make them especially suited for transport via inland vessels. In 2003 30 wind power stations were transported from Germany to Austria destined for the wind farm in Zurndorf, in the province of Burgenland. Large construction parts for the wind power stations – tower sections and generators – were transported from Magdeburg via the Elbe-Havel canal, the Mittelland canal and the Danube to Vienna in 14 days and unloaded in the port of Freudenau. The Austrian forwarder Prangl GmbH was responsible for the end haulage via the road and assembling the wind power stations for which it also provided special cranes.

The unit weight of the cargo came to between 30 and 65 t, the diameter to 4.2 m and the length 98 m. One inland vessel can carry three whole wind power stations. A total of 20 mid-sized vessels able to pass through the German canals were used for this transport undertaking.

Transporting this cargo by inland vessel causes less damage to the high-quality structures, and the anticipated transport time can be better kept, as waterways have no transport impediments as a rule. Speed is less of a decisive factor for this kind of transport than reliability and the safety and security of the valuable freight. Inland waterway transport is capable of meeting these requirements exactly.

http://www.haegerschmidt.de
http://www.b-rail.be
http://www.wienerhafen.com
http://www.prangl.at
http://www.bewag.at > Unternehmen > Konzerninformation > Töchterunternehmen > Windpark Zurndorf

Transhipment of the tower sections of wind power stations onto the Inland vessel in the port of Magdeburg

Quelle: Haeger & Schmidt

Case 4: Factory-New Passenger Vehicles

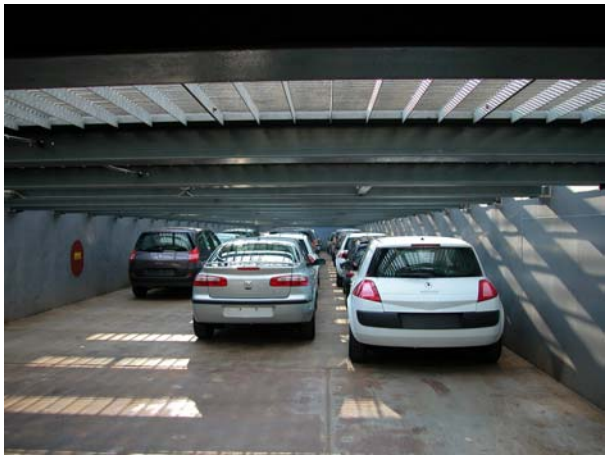
Logistics service provider: E.H. Harms Auto-Terminal Kelheim GmbH & Co. KG (charterer)
Inland waterway transport company: The German private ship owner Trödel, Lehnkering GmbH
Time period and frequency of transports: Approx. once a month since 1998
Route: Kelheim – Vienna – Budapest **Cargo:** Factory-new passenger vehicles

Even higher-value goods – in this case factory-new passenger vehicles – can be shipped using inland vessels and innovative logistics solutions. Since 1998 new cars from Mitsubishi, Ford and Renault have been transported from Kelheim and Vienna to Budapest via the Danube. This helps eliminate vacant transports and increase the cost efficiency of inland waterway transports. The schedule is

drawn up according to production on an irregular basis throughout the year. Adding or cancelling transports on short-notice is possible in order to respond quickly and flexibly to the fluctuations in demand specific to the automobile industry.

The scheduled service is geared toward the use of the motorized cargo vessel “Heilbronn”. The vessel has three decks with mesh floors made for vehicles weighing up to 2,000 kg each. Depending on the specific make, the Heilbronn can carry from 205 to 270 cars. The cargo is transhipped to and from the vessel via a bow ramp on top of the concrete roll-on/roll-off ramps in the port.

Cars Ready for Transport in the Hold



Source: via donau

http://www.wienerhafen.com
http://www.ehharms.de
http://www.lehnkering.com

Case 5: Paper Products

Logistics service provider: Rauch Recycling GmbH & Co KG Altpapier

Inland waterway transport companies: UDP – Ukrainian Danube navigation company, Rubiships Ltd. (BG)

Time period and frequency of transports: At least once a week since June 2003

Routes: Enns – several Southeastern European destinations

Cargo: Recyclable paper in bales, chemical pulp and recently made paper

Rauch Recycling GmbH from Enns (Upper Austria) has taken advantage of the recent jump in trade along the Danube to expand its shipments for the paper and wood industries to Southeastern Europe. Chemical pulp and recyclable paper have been transported using the inland vessel for the main haulage since June of 2003. Shipping finished products via the waterway is currently in preparation. The company stores and tranships the products in the port of Enns-Ennsdorf. Stops are made in ports

in Hungary, Croatia, Serbia-Montenegro and Bulgaria. *Barges* from Bulgaria and Ukraine are used for these shipments.

http://www.rauch-recycling.com
http://www.rubiships.com

Case 6: Steel Scrap – Non-Ferrous Metals

Logistics service provider: Schaufler GmbH

Inland waterway transport companies: Private ship owners

Time period and frequency of transports: Approximately. 15 vessels a year since 1996

Routes: Ybbs – various destinations on the Rhine

Cargo: Steel scrap

While transit regulations and toll charges are been implemented on Europe's roads, Schaufler Metall- und Stahlhandel relies on one of the most traditional and oldest trade routes, the Danube. As the company owns its own port on the Danube in Ybbs (Lower Austria), inland waterway transport is a fixed component in the company's transport and logistics solutions. Steel scrap– cut scrap processed for loading – is shipped regularly via private vessels from Ybbs to Western Europe. Some 25,000 t per year are transported via inland vessel to Duisburg and the ARA ports. Schauffler also uses inland waterway transport to transport processed non-ferrous metals, such as aluminium, copper and stainless steel. In addition, the company is also contracted by the shipping industry to ship coke, building materials and containers via inland waterway transport.

Crane Transhipment in the Port of Ybbs

Source: Schaufler Metalle

http://www.schaufler-metalle.com

Case 7: Container Cargo

Logistics service provider: Mierka Befrachtungsgesellschaft m.b.H.

Time period and frequency of transports: Number of transports varies according to the market situation and freight quantities, several partial cargos since 2000.

Route: Krems – ARA ports **Cargo:** Escalators

Complete escalators have been shipped via the port of Krems (Lower Austria) via inland waterway transport in containers for four years. One 40' container is required per escalator, whereby a special loading process was created in Krems for *stuffing*. According to the port of Krems, these goods are transported via the waterway starting from a contract size of 10 to 15 containers. The vessels require about nine to ten days for delivery to the ARA ports via the Danube, the Main-Danube canal, the Main and the Rhine. Subsequently, the escalators continue their journey overseas, for instance to Japan.

Loading an escalator into a container

Source: Mierka Donauhafen Krems

http://www.mierka.com