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STUDY OF THE CURRENT SITUATION AND TRENDS  
IN INLAND WATER TRANSPORT IN MEMBER COUNTRIES

Note by the secretariat

Addendum

Reproduced below is a succinct biannual report by the secretariat on the current situation and trends in inland water transport in Member countries prepared on the basis of information available.

## I. INLAND NAVIGATION INFRASTRUCTURE DEVELOPMENT

1. A major event which took place in European inland waterway infrastructure development in recent years was the putting into operation of the so-called Magdeburg waterway crossing in Germany. This large-scale project includes the following hydraulic works: Rothensee lock (190 x 12.50 m); Rothensee shiplift (82 x 9.50 m); Mittellandkanal (MLK) aqueduct over the River Elbe, Hohenwarthe twin locks (MLK – Elbe-Havel Canal, 190 x 12.50 m) and Niegripp lock on the branch canal connecting MLK with the Elbe (165 x 11.50 m).

### Austria

2. Two projects are planned to be undertaken: “Integrated River Engineering Project on the Danube to the East of Vienna” and “River Engineering Project on the Danube at Wachau valley”.

3. The section of the Danube between Vienna (power plant Freudensau) and the Austrian-Slovak border represents the weakest part within the Austrian Danube. Fairway depths that are either not deep enough or subject to broad fluctuations over the course of the year greatly hinder the reliability and competitiveness of inland navigation. The risk of accidents due to low water levels, in addition to extended waiting periods, lighterage and the necessity of other means of transport as a substitute limit the market potential of shipping on the Danube to certain kinds of goods and transport relations. Eliminating this bottleneck is, therefore, a cornerstone in Austria’s transport policies and was included in the General Transport Plan of Austria as a key measure for promoting navigation in 2002. Because of its great importance for the development of Danube navigation, this section was also defined as major bottleneck for navigation by the European Union and listed as one of the TEN priority projects in 2004.

4. The fairway conditions at the Wachau valley are much better than in the section east of Vienna, however a distance of about 3 km (3 fords) in this area has to deal with inadequate fairway depths during low water periods.<sup>1/</sup>

### Belarus

5. In the port of Mosyr, a cargo complex for handling fertilizers has been put into operation. Work is under way on the upgrading of the Dnepro-Bugskiy Canal to class Va through the reconstruction of navigable locks. An agreement has been reached between the relevant authorities of Belarus, Poland and Ukraine on carrying out an economic and environmental study on the restoration of the Dnieper – Vistula – Oder waterway.

### Belgium

6. A project on improvement of the inland waterway Seine – Scheldt from classes IV and Va to class Vb is underway, with priority on the section Deûlémont-Ghent. To this end, three new locks are to be built, 11 bridges to be heightened or constructed, the Lys River to be deepened by one meter, 8 mooring places to be built for one-way traffic.

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<sup>1/</sup> Source: “Inventory of Inland Waterway Infrastructure Projects for 2001 – 2013”, a draft based on the information from the European Platform of Waterway Administrations.

7. Another project, also under way, is to make the inland waterway Brussels – Scheldt, from Willebroek to the river Scheldt (at the sea lock Hingene) accessible for coasters and inland navigation vessels of up to 10,000 t. To accomplish this project, the construction of new banks between the railway bridge at Willebroek and the sea lock at Bornem is needed, as well as the building of a new Boulevardbrug bridge at Willebroek. A turning area should also be arranged at Willebroek.

8. Heightening the bridges up to 9,10 m (suitable for inland shipping with four-layers – containers) is under way on the Albert Canal, that is the most important waterway in Flanders with ever growing freight transport on it. The problem is that most of the bridges over the Albert Canal do not reach the European standard of 9.10 m clearance that is needed for four-layer container transport. Since 1993, 5 bridges have been rebuilt or are still under construction. Still 35 bridges have to be adapted.

9. Modernization of the Albert Canal waterway for navigation of vessels of up to 9,000 t carrying capacity. The work that still has to be done includes the elimination of a bottleneck between Wijnegem and Antwerp where the Canal is barely navigable for vessels of class Va, whereas the rest of the Canal is suited for class VIb vessels and pushed convoys. Moreover, on this section, the bridges have the lowest clearance, some less than 7 m, which is the standard for three-layer container navigation only. Eliminating these barriers will open up the Albert Canal for bigger and wider vessels and will make it possible that the Canal can be used fully on its total length. The project includes the widening of the Canal up to a minimum width of 63 m.<sup>2/</sup>

10. Building of a fourth lock of Lanaye of class VIb on the main access toward the Netherlands is under way.

### Bulgaria

11. A feasibility study on the improvement of navigational conditions in the common Bulgarian-Romanian sector of the Danube River (km 375-km 863) will be carried out, jointly by both countries in 2006-2007. The construction of a winter camp for 39 vessels navigating on the Danube River is under realization. Stages I and II were completed in 2000-2004. Stage III, which is currently under way, will be completed in 2007.

### Croatia

12. The following projects have been completed or are under way:

- In the port of Sisak on the Sava River, a dry dock has been put into operation;
- Embarkation facilities for passengers have been arranged in ports Vukovar and Ilok on the Danube;
- RIS infrastructure is being introduced on the Danube with the test center in the Port Master Office – Vukovar;
- A new quay wall has been put into operation in the Port of Vukovar;

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<sup>2/</sup> Source: "Inventory of Inland Waterway Infrastructure Projects for 2001 – 2013", a draft based on the information from the European Platform of Waterway Administrations.

- Upgrading of the Sava River is under way;
- The development of a nautical and tourist center on the Sava River in Sisak is under way;
- The construction of the basic port infrastructure in Slavonski Brod on the Sava River is under way;
- The construction of the port terminal for bulk cargos and building of other hydraulic works in the Port of Osijek on the Drava River is under way;
- Embarkation facilities for passengers in Aljmaš and Batina on the Danube are being arranged;
- A study on the construction of new cargo terminals in the Port of Vukovar for liquid, bulk and general cargo is under way;
- Further development of RIS on the Danube is carried out and a study on introduction of RIS on the Sava River is under way.

### **Czech Republic**

#### 13. Projects under study:

- Preparation for the priority construction is under way to improve the navigation conditions on the critical regulated stretch of the Elbe River from Ústí nad Labem to Czech Republic/Germany State border. This implies the construction of a new navigation step - lock of intended new weir Děčín (water structure) with the envisaged start of works in 2007 and completion in 2010;
- Reconstruction of the wall of one navigation lock chamber on the Elbe waterway on the Mělník – Chvaletice section is prepared to be started in 2006;
- Works are about to be launched regarding construction of a new navigation object in Přelouč as a prerequisite for the extension of the Elbe waterway up to Pardubice;
- Construction of the Port of Pardubice on the Elbe River is under preparation;
- Reconstruction of one navigation lock chamber on the Elbe River between Chvaletice and Pardubice is under preparation;
- Upgrading the height under bridges on the Elbe waterway stretch between Chvaletice and Pardubice is under preparation;
- Construction of the service centre at the Port of Ústí nad Labem is about to be started;
- Several minor structures of regional importance are being prepared for the purpose of recreational and sports navigation development.

14. Projects under way:

- At present, an extension of the navigability of the Elbe waterway from Chvaletice to Pardubice is in progress. Dredging to ensure navigation depths on this 9 km long stretch of the river is currently carried out. The width of the navigable channel of this section will be upgraded to achieve the prescribed waterway parameters;
- Reconstruction of the walls of two navigation locks chambers at Elbe weirs in the Mělník – Chvaletice stretch;
- Implementation of RIS on the Elbe – Vltava waterway;
- A number of minor structures of regional importance is being implemented for the purpose of recreational and sports navigation development.

15. Projects completed since 2001:

- Reconstruction and modernization of three large navigation lock chambers, with dimension of 150 x 22 m, and one smaller navigation lock chamber on the stretch Mělník – Ústí nad Labem. This allowed to unify the parameters of the Elbe waterway on the length of 70 km;
- Reconstruction of the waterway night marking of Elbe bridges;
- Reconstruction of one navigation lock chamber in Prague on the Vltava River;
- A number of flood protection structures and equipment have been installed on inland waterways and in ports;
- Implementation of a number of minor structures of regional importance for the purpose of recreational and sports navigation development;
- Construction of about 350 m of port walls on the Elbe River within the framework of modernization of ports;
- Reconstruction of the service and bunkering station for vessels on the Elbe River in Děčín.

## **France**

16. A feasibility study on the Seine – Nord link is under way. The construction of the link is planned to start in 2008 with completion by 2013.<sup>3/</sup>

17. Modernization and improvement of accessibility of the Moselle River in France is under way. This river links the eastern part of France to the main North Sea ports via the Rhine River. In France the Moselle adapted to large vessels extends for 150 km from the Franco-German-Luxembourg frontier and the region of Nancy via Metz. The annual freight tonnage on this section amounts to 700 000 t at the upstream part and 10 million t at the downstream part, i.e. >25% of the goods volume exported/imported by Lorraine region. The section comprises 12 navigable barrages and 17 locks. The barrages were built between 1930 and 1970, whereas

<sup>3/</sup>

Source: Journal pour le Transport International, 23-24 2006.

the 17 locks were put into operation between 1960 and 1980. The total cost of the restoration of the hydraulic works is estimated at some 100 M€, of which 45 M€ for the locks and 55 M€ for the barrages.<sup>4/</sup>

## **Germany**

18. National reunification transport project No. 17 includes the creation of a continuous inland waterway for large self-propelled vessels (GMS) and pushed convoys (SV) with the draught of 2.80 m and allowing the carriage of two-layers of containers. The part of this project concerning the so-called Magdeburg Waterway Crossing was completed and put into operation in 2003.

19. Improvement of navigability of the Main River is under way. The aim is to upgrade the width of the navigable channel up to 40 m and the depth up to 2.90 m. On the section from the mouth at the Rhine and up to Aschaffenburg (83.0 km), the depth of the channel will be upgraded from 2.90 to 3.30 m.

20. The construction of parallel lock chambers on the Moselle at Fankel and Zeltingen is under way to shorten a waiting time for commercial and recreational traffic.

21. The improvement of the Middle Weser is under way to accommodate the Large Self-propelled Vessels (GMS) with the draught of 2.50 m. It is also planned to build two new locks at Dörverden and Minden with usable length of 140 m.

22. Improvement of the Dortmund-Ems Canal (DEK) is under way. The southern section of the DEK represents a part of a waterway connection between the megalopolises of Hannover, Magdeburg and Berlin. The draught of vessels (GMS) and pushed convoys will be increased up to 2.80 m.<sup>5/</sup>

## **Hungary**

23. The port of Gyor-Gonyu on the River Danube (1792 km) is being developed with regard to rail and road connection improvements; works on construction of a railway link to the main railway network will be carried out from 2006 on.

24. In the port of Csepel (Budapest), improvement works have been carried out that allowed to reach a record annual container turnover of 140 thousand TEU.

25. A feasibility study on the improvement of navigable conditions on the joint Hungarian/Slovak section of the River Danube between Palkovicevo and Mohacs is under way and is expected to be completed in 2007. Works on river training on the entire Slovak-Hungarian stretch of the river between km 1811 and km 1433 are expected to start in 2008.

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<sup>4/</sup> Source: "Inventory of Inland Waterway Infrastructure Projects for 2001 – 2013", a draft based on the information from the European Platform of Waterway Administrations.

<sup>5/</sup> Source: "Inventory of Inland Waterway Infrastructure Projects for 2001 – 2013", a draft based on the information from the European Platform of Waterway Administrations.

**Lithuania**

26. A feasibility study on complex organization of passenger and cargo traffic on the River Nemunas and the Curonian Lagoon has been accomplished in order to rationally substantiate the need for the development of the Klaipeda – Kaunas waterway.

**Republic of Moldova**

27. The construction of the port of Giurgiulesti on the River Danube is under way. The first stage (oil terminal) is expected to be completed in 2006.

**Netherlands**

28. Projects in planning:

- Dismantling the guard lock at Zeeburg and upgrading the canal at Zeeburg to class VIb;
- Construction of a third chamber at the Beatrix lock, in combination with an upgrade of the Lekkanaal to class VIc;
- Ensuring durable navigation on the river Waal by combining dredging and other measures;
- Upgrading the Twentekanaal to class Va;
- Upgrading the liaison Weurt – Ternaaien to class Vb, realising the headroom of 9.10 m between Weurt and Born and upgrading the capacity of the locks;
- Improvement of the accessibility of 's-Hertogenbosch for inland vessels of class IV;
- Improvement of the accessibility of Tilburg for inland vessels of class IV;
- Construction of a fourth chamber at the locks of Ternaaien (Belgium) to enhance the traffic capacity;
- Upgrading the liaison between the west and the north-east of the Netherlands for inland vessels of classes Va/Vb;
- Upgrading the River IJssel to class Va;
- Construction of a second guard lock Zwartsluis (of class Va) on the Meppel - Ramspol waterway to enhance the traffic capacity;
- Upgrading the waterway Zaan to class Va;
- Upgrading the Burgemeester Delenkanaal Oss waterway to class Va;
- Replacement of three outdated locks on the Zuid-Willemsvaart waterway and upgrading it to class IV;

29. Projects under construction:

- Upgrading the Lemmer – Delfzijl waterway to class Va (step 1);

- Upgrading the liaison between IJsselmeer and Kampen of the Ketelmeer waterway to accommodate inland navigation vessels of class Vb and coasters of river-sea category 1;
- Upgrading the liaison between Amsterdam and Lemmer to class Vb;
- Upgrading the Twente Canal between Zutphen and Enschede to class Va;
- Upgrading the Lek Canal at both sides of the Beatrixlocks and construction of resting facilities for skippers;
- Upgrading the Western Scheldt according to the Treaty with Belgium, including salvage of about 60 shipwrecks;
- Replacement of 4 locks on the Zuid Willemavaart waterway and upgrading it to class III;
- Upgrading the Meuse route by adapting two bridges for 4-layers container traffic (step 1);
- Renovation of the North Sea Canal Guard Locks on Noordzeekanaal at IJmuiden to ensure a higher flood control from the sea;
- Construction of a double chamber lock on an aquaduct (“naviduct”) on the Markermeer – IJsselmeer (Krabbersgat) waterway;
- Construction of a second lock at Lith to enlarge the traffic capacity of the Meuse waterway;
- Replacement of the old lock (Hardersluis) by an aqueduct suitable for vessels of class IV on the Veluwemeer – Wolderwijd waterway.<sup>6/</sup>

## **Poland**

30. The Upper Vistula Waterway of 92 km length from Oswieciem to Krakow with six barrages cascade was open for navigation in 2003 as class II to IV.

## **Romania**

31. A project on banks protection on the Sulina Canal is planned to be executed in 2006 – 2009. A project on measurement and signalization system on the Danube to be executed in 2006 – 2009.

32. Technical design and tender documents finalized in 2005 for the first stage of a project on the improvement of navigable conditions on the Danube, Calarasi - Braila sector (km 375 – km 175) for execution in 2007 – 2009.

33. A project on acquisition and implementation of the Vessel Traffic Management and Information System on the Danube (RoRIS) is expected to be completed in 2006.

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<sup>6/</sup> Source: “Inventory of Inland Waterway Infrastructure Projects for 2001 – 2013”, a draft based on the information from the European Platform of Waterway Administrations.

34. A feasibility study on the improvement of navigable conditions on a common section of the Danube with Bulgaria (km 863 – km 375) will be carried out in 2006 – 2007 and executed in 2009 – 2012.

35. A feasibility study on banks consolidation on the Danube – Black Sea Canal and Poarta Alba – Midia – Navodari will be carried out in 2006 – 2007 and executed in 2007 – 2011.

36. The construction of a barge terminal in the Port of Constanta is under way and to be completed in 2007.

### **Russian Federation**

37. A new cargo wharf has been built at the river port of Archangel with an annual capacity of 120,000 t.

38. In the port of Oust-Donetsk, cargo handling facilities have been modernized and are now capable of handling annually up to 1.2 million t of sulphur and 0.4 million t of grain.

39. In the port of Azov, a grain handling terminal has been put into operation with an annual capacity of 1.65 million t.

40. In the port of Rostov, a grain handling terminal “South of Russia” has been put into operation with a capacity of 0.8 million t a year.

41. In the port of Astrakhan, a grain handling terminal has been put into operation with a capacity of 0.25 million t a year.

42. Construction of a second parallel lock of 150 x 18 x 5 m is under way at the Kochetovsky hydraulic complex on the River Don. The lock is expected to be put into operation in 2007.

43. A new container terminal is to be put into operation in the port of Azov in 2006 with a cargo capacity of 0.4 million t a year.

44. A study is under way on the construction of a low-head hydraulic complex at Nijniy Novgorod on the River Volga.

45. A study is under way on the construction of a second parallel lock (310 x 21.5 x 5.5 m) at Nijne-Svirski hydraulic complex on the River Svir of the Volgo-Baltijskiy waterway.

46. A study is under way on the construction at Rostov-na-Donu of an alternative railway avoiding the use of the existing low railway drawbridge with limited time of opening.

### **Slovakia**

47. A project on the development of the River Vah from Komarno to Piestany is under study.

### **Ukraine**

48. Works are carried out with a view to restoring navigational conditions (stage I) on the Bystroe outlet from the Kilia Arm of the Danube to the Black Sea.

## II. MOVEMENT OF GOODS

49. Overall, 2004 was a very good year for the world economy. The recovery continued at a robust rate, although the sharp rise in oil prices dampened the cyclical momentum in the course of the year. A major feature of economic developments in 2005 remained the contrast between weak growth in western Europe and rapid growth in other major regions, including central and eastern Europe and the CIS. Within western Europe, the weakness concentrated in the euro area, and especially in the three major economies (France, Germany, Italy), although their sluggishness also had adverse effects on some of the smaller west European economies.<sup>7/</sup>

### Rhine

50. In spite of the progress in the volume of goods handled in seaports of some 5%, the volume of cargo carried on the Rhine showed a slight decrease of some 1% in 2005. This is partly explained by a long period of low water in the autumn of 2005. Small craft having a higher flexibility with regard to shallow waters profited however from these conditions, accompanied with a clear upward trend in freight rates.

### Moselle

51. Because of low waters in the Rhine during the second half of 2005, the volume of goods traffic on the Moselle decreased by 6 to 9% in 2005 in comparison with the year 2004. The intensity of traffic remained nevertheless stable and the level of saturation of navigation locks was therefore high. The goods traffic on the Moselle reached, in 2005, some 14 million t at the Coblenz lock (14.9 million t in 2004), 8.9 million t at the Apach lock (9.7 million t in 2004) and 2.9 million t at the Kanzem lock giving access to the Sarre River in Germany. The cargoes usually originated from, or were bound for, the Rhine.

### Danube

52. According to the latest available statistics, the volume of goods traffic on the Danube went down by 14.4% in 2003 in comparison with 2002, decreasing from 28.9 million t to 24.7 million t.

### Czech Republic

53. The following downfall trends have been observed in the goods transport flows into, from and within the Czech Republic by inland waterway in recent years (in thousand t):<sup>8/</sup>

Years	1995	2000	2001	2002	2003	2004
Import	438.8	482.3	481.5	384.8	239.6	299.4
Export	1,181.7	621.6	517.5	417.5	374.6	253.8
Domestic	2,770.5	635.3	750.4	760.3	558.0	619.4
Total	4,391.0	1,739.2	1,749.4	1,562.6	1,172.2	1,172.6

<sup>7/</sup>

Economic Survey of Europe, 2005, parts 1 and 2.

<sup>8/</sup>

Source: Transport Yearbook 2004.

## **France**

54. 2005 was an excellent year for the French inland navigation. In spite of unusually low water levels on the Rhine and on the Moselle, the performance of goods traffic registered in that year amounted to 7.85 billion tkm representing a growth by 7.4% in comparison with the traffic performance of 2004 which itself was already by 6.2% higher than that of 2003.<sup>9/</sup>

## **Germany**

55. In 2005, the volumes transported by inland waterway in Germany progressed by just 0.4%. In the last quarter of 2005, this progress was checked mainly on the Rhine and the Moselle by water conditions that remained insufficient for a long period, thereby limiting the available operational capacity.<sup>10/</sup> It should be borne in mind that the volumes transported on the Rhine represent something like 85% of the total volume transported in Germany. In the first quarter of 2006, the volume of goods transported by German inland waterways diminished by almost 1%<sup>11/</sup> in comparison with the same period of 2005.

56. Total goods transport by inland waterway in million t:

Year	2002	2003	2004	2005
Volume	231.7	220.0	235.9	236.8

57. The breakdown by flags of vessels that carried the above volume of goods, was in 2005, as follows: Dutch (53.0%), German (34.2%), Belgian (7.0%), Polish (1.3%), Swiss (1.2%), Austrian (0.6%), Czech (0.5%), etc.

58. The bulk of the 2005 goods volume was carried in 2005 (with double counting of goods carried on more than one waterway): on the River Rhine (199.8 million t), on the canals of western Germany directly linked with the Rhine (40.9 million t), on the Mittellandkanal (22.6 million t), on the Elbe (17.9 million t), on the Danube (10.9 million t), on the Weser (8.5 million t) and on the Berlin region waterways (5.1 million t).<sup>12/</sup>

## **Russian Federation**

59. The turnover of goods in inland navigation ports amounted in 2005 to 170.6 million t, that is 5.1% less than in 2004. The reasons for the downfall are an extraordinary cold 2004/2005 winter followed with an extended icing period of the Volga and Kama rivers and the diminished volume of oil transport demand. The share of international (export/import) trade in the above volume of goods turnover was 27.0%.

## **Switzerland**

60. Swiss inland navigation carriers experienced a rather difficult year 2005, and the records of the first trimester of 2006 look grim as well. The first three months of 2006 showed a downfall of 10% in container transport and 13.5% in the carriage of oil and oil products in comparison

<sup>9/</sup> Source: Journal pour le Transport International, 0-10 2006.

<sup>10/</sup> Source: Market Observation for European Inland Navigation, 2005-II.

<sup>11/</sup> Source: www.destatis.de.

<sup>12/</sup> Source: Statistical Yearbook 2006.

with the same period of 2005. The main factors behind this, were the high level of fuel prices and many months of low water that hindered the navigation, as never before.

### **Ukraine**

61. The year 2001 proved to be a turning point in the downward tendency experienced in inland navigation of Ukraine since 1989 when a record volume of 67.4 million t was reached.

Goods transport by inland waterway in million t: <sup>13/</sup>

Year	1989	1990	1995	2000	2001	2004
Volume	67.4	65.7	12.8	8.3	7.0	11.9

62. The upward tendency seems to be upheld in 2005 and 2006 with a growth of volume of goods reported in the first nine months of 2006 of 6.7% in comparison with the same period of 2005.

63. Among the major inland navigation ports in 2005, the leaders were:

- Port of Ismail (Danube) with a goods turnover of 6,653.3 thousand t;
- Port of Reni (Danube) with a goods turnover of 2,960.3 thousand t;
- Port of Zaporozhye (Dnieper) with a goods turnover of 2,636.2 thousand t;
- Port of Dnepropetrovsk (Dnieper) with a goods turnover of 2,376.8 thousand t; and
- Port of Dneprodzerzhinsk (Dnieper) with a goods turnover of 1,205.1 thousand t.

64. The share of international traffic in the volume of goods carried by two major national inland navigation carriers (the “Ukrecflot” and the Ukrainian Danube Shipping Co.) is the most important and reached in 2005 and in the first half of 2006 some 80%.

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<sup>13/</sup> Source: Ukrainian State Committee for Statistics ([www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)).