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**MONITORING OF DEVELOPMENTS RELEVANT FOR
THE PAN-EUROPEAN TRANSPORT CORRIDORS AND AREAS**

Infrastructure bottlenecks and missing links

Transmitted by the Government of Germany

**Bottlenecks and missing links
in the German E rail network and inland waterways***

* The UNECE Transport Division has submitted the present document after the official documentation deadline due to resource constraints.

Country	Mode of transport	Route	Section	Traffic loading	Capacity	Subject	Costs (Mio. €)	Operational by year
1	2	3	4	5	6	7	8	9
Germany	Railways/ Combined Transport	C E 20 (Liege -) Aachen – Koeln – Dortmund – Hannover – Berlin – Frankfurt/Oder (– Poznan)	Minden – Seelze	eastbound track overloaded	double track	upgrading to four tracks	901	open
			Dortmund – Koeln	track heavily loaded	double, three and four tracks	upgrading in sections to improve capacity and upgrading of nodes	not known	open
Germany	Railways/ Combined Transport	C E 30 Karlsruhe – Stuttgart – Nuernberg – Plauen – Dresden – Goerlitz	Hoyerswerda – Horka	eastbound track overloaded	single track	upgrading to double track und electrification	30	open
Germany	Railways/ Combined Transport	C E 32 Frankfurt (M) – Hanau - Erfurt – Leipzig – Dresden	Frankfurt – Hanau – Erfurt	track heavily loaded	double track	upgrading in sections by construction of a new double track line and upgrading to four tracks	2.250	open
Germany	Railways/ Combined Transport	C E 35 (Arnhem-) Emmerich – Duisburg – Duesseldorf Koeln – Mainz – Mannheim – Karlsruhe (–Basel)	Grenze NL/D – Emmerich – Oberhausen	track will be heavily loaded after completion of Betuwe line in the Netherlands	double track	improvement of track capacity and construction of a third track	1.000	open
			Karlsruhe - Basel	track heavily loaded	double track	upgrading to four tracks by construction of two new tracks	2.823	open
Germany	Railways/ Combined Transport	C-E 43 Frankfurt – Heidelberg/Mannheim – Stuttgart – Ulm – Augsburg –Muenchen – Freilassing (-Salzburg)	Frankfurt – Mannheim	all tracks are heavily loaded or overloaded	two double track	construction of a new double track line between Frankfurt and Mannheim for 300 km/h	1.771,4	open
			Stuttgart – Ulm	track heavily loaded	double track	construction of a new double track line with connection to node Stuttgart	1.450	open
			Augsburg – Muenchen	track heavily loaded	double track	upgrading to four tracks for 230 km/h	490	2012

Country	Mode of transport	Route	Section	Traffic loading	Capacity	Subject	Costs (Mio. €)	Operational by year
1	2	3	4	5	6	7	8	9
Germany	Railways	E 45 (Rodby-) Puttgarden – Hamburg – Hannover – Wuerzburg – Nuernberg – Ingolstadt – Muenchen – Kufstein (– Woergl)	Hamburg/Bremen – Hannover	track partly heavily loaded	double track and three tracks	construction of a new double track connection between the lines Hamburg – Bremen and Celle – Hannover for 200 km/h	1.284	open
			Rotenburg – Minden	section is heavily loaded	single and double track	upgrading to double track between Rotenburg – Verden and Nienburg – Minden	348	open
			Stelle – Lueneburg	bottleneck	double track	construction of a third track	230	open
			Nuernberg – Ingolstadt		double track	construction of a new double track line for 300 km/h between Nuernberg and Ingolstadt	3.331	2006
Germany	Railways	E 51 (Gedser-) Rostock – Berlin – Halle/Leipzig – Erfurt - Nuernberg	Halle/ Leipzig – Erfurt – Nuernberg	Missing Link		additional double track for 230 km/h to line Nuernberg – Ebensfeld and construction of a new line Ebensfeld – Erfurt and Erfurt – Leipzig/ Halle for 300 km/h	5.246	open

E: AGC branch

C E: AGC and AGCT branch

Country	Mode of Transport	Waterway	Section	Design vessel-	Capacity	Extent of Action		Operational by year anticipated
						Subject	Costs Mil. €	
1	2	3	4	5	6	7	8	9
Germany	Inland navigation	Nord-Ostsee-Canal	Eastern section	1.200 TEU Container vessel	quantitative and qualitative bottleneck (width)	straightening and widening of navigation channel	100	2010
		Lower and Outer Elbe	Hamburg – North Sea	8.000 TEU Container vessel	qualitative bottleneck (profile)	deepening and widening of navigation channel	320	2009
		Outer Weser	Bremen – Bremerhaven	Panmax Bulk carrier (increase of draught: 0,90 m)	qualitative bottleneck (depth)	deepening of navigation channel	20	2008
		Outer Weser	Bremerhaven – North Sea	8.000 TEU Container vessel	qualitative bottleneck (profile)	deepening and widening of navigation channel	30	2008
		Middle Weser	Minden – Bremen	length 135 m width 11,50 draught 2,50 m	qualitative bottleneck (profile)	deepening and widening of navigation channel	30	2012
		Middle Weser	Doerverden lock and Minden lock	length 135 m width 11,40 draught 2,50 m	qualitative bottleneck (profile)	lock chamber dimension 140 m x 12,50 m	100	2012
		Mittelland Canal	Branch canals (including locks): - Osnabrueck - Linden - Misburg - Hildesheim	length 110 m width 11,40 draught 2,80 m	qualitative bottleneck (profile)	deepening and widening lock chamber dimension 140 m x 12,50 m	300	2025

Country	Mode of Transport	Waterway	Section	Design vessel-	Capacity	Extent of Action		Operational by year anticipated
						Subject	Costs Mil. €	
1	2	3	4	5	6	7	8	9
Germany	Inland navigation	Rhein-Herne Canal	east from Gelsenkirchen	length 185 m width 11,40 drought 2,80 m	qualitative bottleneck (profile)	deepening and widening of navigation channel	50	2020
		Dortmund-Ems Canal	Southern Branch	length 185 m width 11,40 drought 2,80 m	qualitative bottleneck (profile)	deepening and widening of navigation channel	240	2015
		Datteln-Hamm-Kanal	Western Branch	length 185 m width 11,40 drought 2,80 m	qualitative bottleneck (profile)	deepening and widening of navigation channel	30	2015
		Mosel	Zeltingen lock and Fankel lock	length 185 m width 11,40 drought 2,80 m	quantitative bottleneck (passenger vessel)	lock chamber dimension 185 m x 12,50 m	85	2010
		Lower Main	Aschaffenburg – Connection to Rhine	length 185 m width 11,40 drought 3,10 m	qualitative bottleneck (depth)	deepening of navigation channel	30	2015
		Middle Main	Wuerzburg – Main-Danube Canal	length 185 m width 11,40 drought 2,70 m	qualitative bottleneck (profile)	deepening and widening of navigation channel	150	2012
		Elbe-Luebeck Canal	Luebeck – Connction to Elbe	length 110 m width 11,40 drought 2,00 m	qualitative bottleneck (profile)	lock chamber dimension 115 m x 12,50 m	150	2025
		Havel-Oder Waterway	Berlin – Oder River	length 110 m width 11,40 drought 2,20 m	qualitative bottleneck (depth)	deepening of navigation channel	175	2025

Country	Mode of Transport	Waterway	Section	Design vessel-	Capacity	Extent of Action		Operational by year anticipated
						Subject	Costs Mil. €	
1	2	3	4	5	6	7	8	9
Germany	Inland navigation	Havel-Oder Waterway	Niederfinow Shiplift	length 110 m width 11,40 drought 2,50	quantitative and qualitative bottleneck	trough dimension 115 m x 12,5 m	165	2020
		Hohensaaten-Friedrichsthaler Waterway	Hohensaaten – Friedrichsthal	sea river vessel drought 3,20	qualitative bottleneck (profile)	deepening and widening of navigation channel	40	2015
		Mitteland Canal, Elbe-Havel Canal, Lower Havel Waterway, Berlin Waterways	Hannover – Berlin	length 185 m width 11,40 drought 2,80 m	qualitative bottleneck (profile)	deepening and widening of navigation channel	1 200	2030
		Donau	Straubing – Vilshofen	length 110 m width 11,40 drought 2,80 m (increase of drought 0,20 m)	qualitative bottleneck (profile)	deepening and widening of navigation channel	130	2015
		Saale	Calbe – connection to Elbe	length 85 m width 9,50 m drought 2,00 m	qualitative bottleneck (profile)	lateral canal with locks	80	2015