



D.T1.2.3

MARKET POTENTIALS FOR RAIL FREIGHT TRANSPORT- CETC - EGTC

Work paper

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1. Introduction

The following analysis "Market potentials for rail freight transport" was prepared on the basis of the methodology used as a working document for all project partners, in each of the pilot regions. The regions for which the analysis was prepared are three voivodeships in Poland: Zachodniopomorskie, Lubuskie and Dolnośląskie. The following elements were developed as part of the analysis:

- rail networks and services
- logistics market
- market conditions
- industrial structure and clusters

The above issues are described in chapter 2 with a division into relevant subsections. Chapter 2.1. - "Analysis of regional rail network and services" and chapter 2.2. - "Analysis of the logistic market (Development and Trends)" in this paper, they largely refer to the analysis made in the regional baseline surveys (D.T1.1.5) as a kind of summary of the baseline survey and an introduction to market potential analysis. Chapters 2.3. - "Analysis of the economic, political and technical market conditions " and 2.4. - "Analysis of the industrial structure and clusters (potential customers)" are the main part of the analysis of market potential, including the definition of goods and industries relevant for the area (regions and countries), relevant rail cargo units for ports and their hinterland.

The document concludes with a summary and a recommendation on the main market potentials and opportunities for rail freight services in the region (Chapter 3).

2. Status quo Analysis of Market Potential in Poland

2.1. Analysis of regional rail network and services

In the area designated for analysis in the Baltic-Adriatic TEN-T core network corridor there is an extensive infrastructure, on which rail freight transport is carried out by a number of companies with widely available siding infrastructure and several intermodal terminals.

In 2013 the European Commission decided to designate a priority Baltic-Adriatic transport corridor. The corridor starts in the ports of Świnoujście/Szczecin and Gdynia/Gdańsk and runs through Poland, the Czech Republic, Slovakia, Austria, Italy and Slovenia. Korytarz dociera do następujących portów Morza Adriatyckiego: Rawenna, Wenecja, Triest we Włoszech i Koper w Słowenii.

Figure 1 Baltic-Adriatic transport corridor



Source: based on: Baltic-Adriatic Third Work Plan of the European Coordinator Kurt Bodewig, European Commission, 2018.

Carriers

In Poland, 104 railway carriers currently have a licence for freight carriers issued by the Office of Rail Transport (UTK). Table no. 1 presents the largest carriers in terms of weight transported and transport work performed in 2019. It should be noted that this market is still developing, with new entities applying for a licence every year. In 2019 alone, 8 companies applied to UTK for the first time for a licence to transport goods by rail. Most carriers provide services locally or for their own use. The largest carriers have their own rolling stock and maintenance facilities, expand their transport offer by investing in new rolling stock. PKP Cargo itself, which is the largest shareholder in the market (Table 1 and Figure 2), purchased 1100 intermodal platforms and 20 Vectron electric multi-system locomotives. Smaller carriers use leased rolling stock from the Rolling Stock Pools, where rolling stock maintenance services are performed as well.

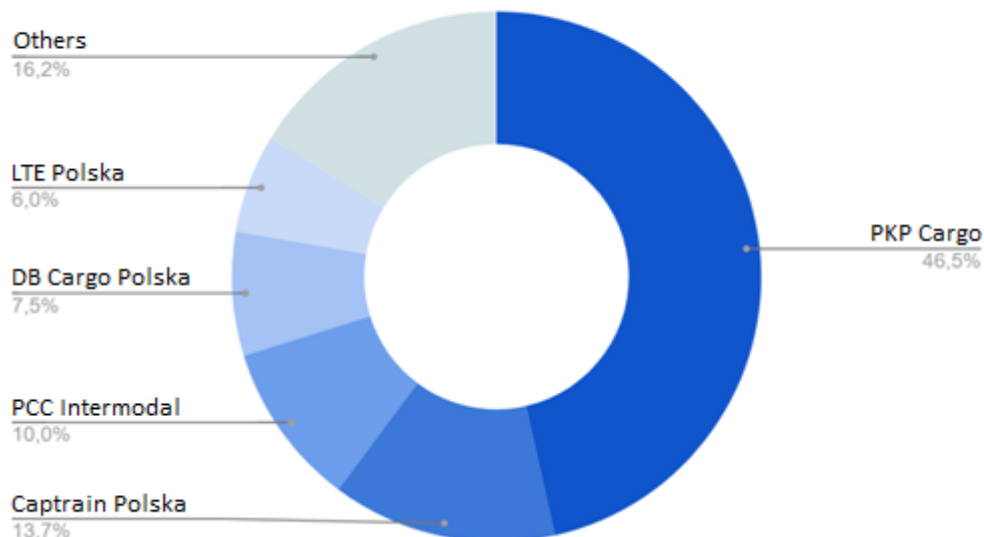
Table 1 List of rail freight carriers in Poland

No	Name	Carrier's market share by weight in 2019	Carrier's market share by transport work in 2019.
1	PKP Cargo S.A.	40,35%	43,92%
2	DB Cargo Polska S.A.	16,91%	5,66%
3	Lotos Kolej Sp. z o.o.	5,42%	9,79%
4	PKP LHS Sp z o.o.	4,13%	5,44%
5	CTL Logistics Sp. z o.o.	3,55%	3,94%
6	PUK Kolprem	3,32%	1,89%
7	Orlen Kol-Trans	2,55%	3,71%
8	Freightliner	2,46%	3,18%
9	Pol-Miedź Trans	1,87%	1,80%
10	Rail Polska	1,61%	1,75%
11	Captrain Polska	1,37%	1,97%
12	CD Cargo Poland	1,33%	1,75%
13	PKP Cargo Service	1,29%	-
14	Ciech Cargo	1,19%	-
15	KP Kotlarnia	1,00%	-
16	Inter Cargo	0,98%	2,34%
17	PCC Intermodal	0,88%	1,19%
18	LTE Polska	0,72%	1,01%
19	JSW Logistics	0,65%	-
20	Ecco Rail	0,58%	0,82%
21	HSL Polska	0,56%	0,58%
22	STK	-	0,94%
23	Logistic & Transport	-	0,87%
24	Olavion	-	0,82%
25	Rail Polonia	-	0,60%
26	EP Cargo	-	0,47%
27	Pozostali*	7,30%	4,57%

Source: own study based on The Office of Rail Transport (UTK) data.

Figure 2 Market share of intermodal carriers by weight in 2018

Market share of intermodal carriers by weight in 2018



Source: The Office of Rail Transport (UTK)

Railway lines, sidings and intermodal terminals

Three voivodships were analysed: Dolnośląskie, Lubuskie and Zachodniopomorskie, which are ranked third, seventh and tenth respectively in terms of railway line density per 100 km² in Poland (Table 2). Below in Table 3 is a list of the railway lines that have been analysed. The list includes those lines that directly enter the Baltic-Adriatic TEN-T core network corridor and lines that are important for the corridor.

Table 2 Length of railway lines in voivodships (in kilometres)

No	Voivodships	Length of railway lines	Railway line density per 100 km ²
1	Śląskie	1966 km	15,8 km
2	Opolskie	782 km	8,3 km
3	Dolnośląskie	1763 km	8,8 km
4	Małopolskie	1020 km	6,7 km
5	Kujawsko-Pomorskie	1200 km	6,7 km
6	Pomorskie	1210 km	6,6 km
7	Lubuskie	912 km	6,5 km
8	Wielkopolskie	1871 km	6,3 km
9	Łódzkie	1081 km	5,9 km
10	Zachodniopomorskie	1173 km	5,1 km
11	Świętokrzyskie	601 km	5,1 km
12	Mazowieckie	1715 km	4,8 km
13	Podkarpackie	863 km	4,8 km
14	Warmińsko-Mazurskie	1055 km	4,4 km
15	Podlaskie	717 km	3,6 km
16	Lubelskie	899 km	3,6 km

Source: own study based on The Office of Rail Transport (UTK) data.

Dolnośląskie Voivodship

A total of 1763 km of tracks run through the Dolnośląskie Voivodeship, however, not all lines are allowed for freight transport. The voivodeship is in third place in terms of density of railway lines per 100 km². Many of these lines are currently closed, traffic can be restored after these lines are included in the railway line modernisation and revitalisation programme. The European Corridor E30 passes through the voivodeship, with lines no. 132, 275, 278 and 282 within the voivodeship. Within the voivodeship there are also lines included in the Baltic-Adriatic TEN-T core network corridor, which is included in lines no: 143, 274 and 281. Apart from them, other key lines for freight transport run through the voivodeship: 137, 271, 273, 276, 289 (Table 3).

The technical characteristics of all these lines allow to carry freight transport with a minimum load of 196 kN/axle, with the lines included in the TEN-T network the vast majority have a permissible load of 221 kN/axle. The vast majority of freight railway lines are electrified, except for lines 137 and 282. There are three intermodal terminals in the voivodeship (table no 4), and 152 sidings are adjacent to railway lines passing through the voivodeship (table no 5).

Lubuskie Voivodeship

A total of 912 km of tracks with a network density of 6.5 km per 100 km² runs through the Lubuskie Voivodeship. Three European corridors run through the area: E20, E59 and CE59. Within the corridor no. E20 in Lubuskie Voivodeship runs line no. 3. Corridor no. E59 includes line no. 351, which runs through the north-eastern part of the voivodeship. In the case of the CE59 line, in the area of the voivodeship runs line no. 273, which crosses with the E20 line. Apart from the above lines which are part of the network of European corridors, the following railway lines also pass through the voivodeship: 14, 203, 358, 367, 370, 436. Unfortunately, these lines are largely non-electrified and single-track. There is only one intermodal terminal in the voivodeship. The voivodeship area is also served by a terminal in Frankfurt (Oder). In addition, a transshipment terminal in Gorzów Wielkopolski is currently being planned. There are 119 sidings adjacent to the lines passing through the area of the voivodeship.

Zachodniopomorskie Voivodeship

There are 1173 km of railway lines running through the area of the Zachodniopomorskie Voivodeship, with a railway network density of 5.1km per 100km². Two European corridors run through the voivodeship: E59 and CE59. Within the corridor E59, two lines run through the analyzed area: line 401 and line 351. Lines 273 and 428 are elements of the CE59 corridor. All lines included in the European corridors are electrified and adapted to carry freight. The least adapted section is line no. 273, whose comprehensive modernisation would be planned only after 2023, depending on the availability of funds in EU programmes. In addition to the European corridors, freight trains can be operated on the following lines: 202, 402, 403, 404, 408, 409, 855 I 857. In most cases these lines are single-track and electrified. There are two intermodal terminals in the voivodeship (table no 4), and 141 sidings are adjacent to railway lines passing through the voivodeship (table no 5).



No	Railway line	Route	Length (km)	Number of tracks	Number of sidings	Electrification
1	3	Warszawa Zachodnia - Kunowice	478,098	2	11	yes
2	14	Łódź Kaliska - Zasieki - Forst	389,08	1	9	no
3	132	Bytom - Wrocław Główny	181,041	2	4	yes
4	137	Katowice - Legnica	283,905	1	20	no
5	143	Kalety - Wrocław Mikołajów	163,64	2	12	yes
6	202	Gdańsk Główny - Stargard	333,678	1	19	yes
7	203	Tczew - Kostrzyn - Kustrin-Kietz	342,453	2	5	no
8	271	Wrocław Główny - Poznań Główny	163,753	2	3	yes
9	273	Wrocław Główny - Szczecin Główny	355,903	1	58	yes
10	274	Wrocław Świebodzki - Zgorzelec	202,863	1	20	yes
11	275	Wrocław Muchobór - Gubin Południowy	197,700	2	9	yes
12	276	Wrocław Główny - Międzyzlesie	138,307	2	9	yes
13	278	Węgliniec - Zgorzelec	26,532	2	3	yes
14	281	Oleśnica - Chojnice	310,040	1	5	yes
15	282	Miłkowice - Jasień	123,37	2	6	no
16	289	Legnica - Rudna Gwizdanów	39,065	1	3	yes
17	351	Poznań Główny - Szczecin Główny	213,499	2	15	yes
18	358	Zbąszynek - Gubin	93,127	1	9	no
19	367	Zbąszynek - Gorzów Wielkopolski	73,635	1	8	no
20	370	Zielona Góra Główna - Żary	53,326	1	4	no
21	401	Świnoujście - Szczecin Dąbie	99,971	2	9	yes
22	402	Koszalin-Goleniów	142,131	1	13	yes
23	403	Piła Północ - Ulikowo	124,764	1	3	no
24	404	Szczecinek - Kołobrzeg	99,416	1	10	yes
25	408	Szczecin Gumieńce - Grambow	14,910	1	2	no
26	409	Szczecin Gumieńce - Tantow	18,600	1	1	no
27	428	Szczecin Dąbie - Szczecin Podjuchy	6,436	1	7	yes
28	436	Czerwieńsk Południe - Czerwieńsk Wschód	2,150	1	0	yes
29	855	Regalica - Szczecin Port Centralny SPA	0,860	2	4	yes
30	857	Szczecin Dąbie SDA - Szczecin Dąbie SDC	2,340	1	0	yes

Source: own study



Table 4 List of intermodal terminals in the analyzed area in Poland

No.	Terminal Name	Owner / Manager	Availability	Rail transport service	Road transport service	River transport service	Maritime transport service	Total terminal area [ha]	Maximum annual transshipment capacity
Zachodniopomorskie Voivodeship									
1	OT Port Świnoujście - terminal kontenerowy	OT Port Świnoujście Sp. z o.o.	24/7	YES	YES	YES	YES	20	70 000 TEU
2	DB Port Szczecin	DB Port Szczecin Sp. z o.o.	Sun. 22:00 - Sat. 14:00	YES	YES	YES	YES	12,7	150 000 TEU
3	Port w Policach	Port morski w Policach Sp. z o.o.	n.d.	Planned	NO	YES	YES	0,7	2900 thous. t
4	Terminal LNG im. Prezydenta Lecha Kaczyńskiego w Świnoujściu	Polskie LNG S.A.	n.d.	Planned	YES	NO	YES	40	5 bn m3 of natural gas
5	Alfa Terminal Szczecin	Alfa Terminal Szczecin Sp. z o.o.	Mon. - Fri.: 06:00 - 6:00 working hours on holiday depend on demand	YES	YES	YES	NO	50	n.d.
Lubuskie Voivodeship									
1	Rail Terminal Rzepin	Rail Terminal Rzepin Sp. z o.o.	24/7	YES	YES	NO	NO	1,6	40 000 TEU
2	Terminal we Frankfurcie nad Odrą	PCC Intermodal S.A.	Mon. - Sun.: 04:00 - 21:00	YES	YES	NO	NO	3	100 000 TEU
3	Terminal przeładunkowy Gorzów Wielkopolski	Planned - currently at the conceptual stage	n.d.	YES	YES	YES	NO	n.d.	n.d.
Dolnośląskie Voivodeship									
1	PCC INTERMODAL - TERMINAL PCC BRZEG DOLNY	PCC Intermodal S.A.	Mon.- Fri.: 06:00 - 22:00 Sat.: 07:00 - 15:00	YES	YES	NO	NO	9	110 000 TEU
2	Terminal kontenerowy Schavemaker Kąty Wrocławskie	SCHAVEMAKER INVEST SP. Z O.O.	Mon.- Fri.: 07:00 - 21:00 Sat.: 07:00 - 15:00	YES	YES	NO	NO	5	75 000 TEU
3	Terminal Kontenerowy Wrocław	Lotniczy Dworzec Towarowy Wrocław Sp. z o.o.	Mon.- Fri.: 07:00 - 01:00 Sat.: 08:00 - 23:00 Sun.: 08:00 - 01:00	NO	YES	NO	NO	2	n.d.
4	Terminal kontenerowy Siechnice	Rail Polska Sp. z o.o./Baltic Rail AS	Working days: 6:00-22:00 working hours on holiday depend on demand	YES	YES	NO	NO	10	50 000 TEU

Source: own study based on The Office of Rail Transport (UTK) data.



Table 5 List of railway sidings in the analysed area in Poland

No	Station	Railway line	Siding name
1	Białogard	202,404	Bocznica - Dystrybutor Produktów Naftowych "CePeN"
2	Białogard	202,404	Bocznica - "AMPOL- MEROL" Sp. z o.o.
3	Boguszów-Gorce Zachód	274	Bocznica - PW Rupex2
4	Bolesławiec	282	Polski Koncern Naftowy ORLEN S.A.
5	Brzeg Dolny	273	Bocznica PCC Rokita SA.
6	Chojna	273	Tor za i wyładunkowy nr 6, 8 - PKP CARGO S.A.
7	Chojna	273	Bocznica-Agrochem Puławy
8	Chojna	273	Tor za i wyładunkowy nr 102 - Zespół Składowic Lasów Państwowych Stargard Szczeciński
9	Czerwieńsk	358	PNB - PKP CARGOTABOR Sp. z o.o.
10	Długotłęka	143	CTL Rail - ZEC - TRANS Sp. z o.o.
11	Dolna Odra	273	Bocznica - Zespół Elektrowni Dolna Odra S.A.
12	Dzierżoniów Śląski	137	Bocznica - Orlen-Gaz Sp. z o.o.
13	Głogów	14,273	Dolnośląskie Przedsiębiorstwo Handlu Opatem i Materiałami Budowlanymi "DOMAT" Sp. z o.o.
14	Głogów	14,273	Fabryka Maszyn Budowlanych "Famaba" w Głogowie
15	Goleniów	401,402	Bocznica - Sewedwood Poland Sp. z o.o. w Goleniowie
16	Goleniów	401,402	Bocznica - PKP Energetyka S.A.
17	Gorzów Wielkopolski	203,367	Bocznica - PKP CARGOTABOR Sp z o.o.
18	Gorzów Wielkopolski i Zieloniec	367	Bocznica – DRAPOL
19	Grabowno	281	NAFTOBAZY Sp. Z o.o.
20	Gryfice	402	Bocznica - Przedsiębiorstwo Usługowo - Handlowe Chemirol Sp. z o.o.
21	Iłowa Żagańska	282	Bocznica - VITROSILICON S.A.
22	Imbramowice	274	Bocznica - "Złomstal" Firma Handlowo-Usługowa Imbramowice
23	Jankowa Żagańska	282	Bocznica - Baza paliw
24	Jawor	137	Bocznica - Kopalnia Granitu ZIMNIK "TINARG" Sp. z o.o.
25	Jawor	137	Tor za i wyładunkowy nr 401 Borów
26	Jawor	137	Bocznica - Kopalnia Granitu "GNIEWKÓW" Sp. z o.o.
27	Jawor	137	Bocznica - COLAS Kruszywa Sp. z o.o.
28	Jawor	137	Bocznica - Roboty Ziemne Bożena Światała
29	Jawor	137	Bocznica - Lafarge Kruszywa Beton
30	Jaworzyna Śląska	137,274	Bocznica - PKP CARGO S.A. "Wagon Jaworzyna Śl." Sp. z o.o.
31	Jaworzyna Śląska	137,274	Bocznica - Muzeum Przemysłu i Kolejnictwa na Śląsku
32	Jelenia Góra	274	Bocznica - PKP Energetyka S.A.
33	Jędrzychowice	278	BITUMEX Sp. z o.o.
34	Jędrzychowice	278	Waldorf Statler Properties



35	Kamieniec Ząbkowicki	137,276	Bocznica PHU Lokomotiv
36	Kamieniec Ząbkowicki	137,276	Bocznica Sekcja Elektrotrakcyjna
37	Kamieniec Ząbkowicki	137,276	Bocznica "Stacja Paliw PKP Energetyka"
38	Karlino	404	Bocznica - "Homatrans Sp. z o.o." 78-230 Karlino
39	Kąty Wrocławski e	274	Bocznica - Schavemaker Cargo Sp. z o.o. Terminal Kontenerowy
40	Kąty Wrocławski e	274	Bocznica - KTK Polska Sp. z o.o.
41	Kołobrzeg	402,404	Bocznica - Miejska Energetyka Ciepła Sp. z o.o.
42	Kołobrzeg	402,404	Bocznica - Polski Koncern Naftowy ORLEN S.A., Baza nr 95 w Kołobrzegu
43	Kołobrzeg	402,404	Bocznica-Rentrans Cargo Sp. z o.o.
44	Kostrzyn	203,273	Bocznica - Port Kostrzyn
45	Kostrzyn	203,273	Bocznica - "Arctic Paper Kostrzyn S.A."
46	Kostrzyn	203,273	Bocznica - UNIKOL RAILWAY WORKSHOP s.c
47	Kostrzyn Towarowy	273	Bocznica - "Arctic Paper Kostrzyn S.A."
48	Kostrzyn Towarowy	273	Bocznica Port Kostrzyn
49	Kostrzyn Towarowy	273	Bocznica - UNIKOL RAILWAY WORKSHOP s.c.
50	Koszalin	202,402	Bocznica - "Złomostal" Renata i Zbigniew Puzio Sp. Jawna
51	Koszalin	202,402	Bocznica - Firma "Ki" Klemens Imioła
52	Koszalin	202,402	Bocznica - Miejska Energetyka Ciepła Spółka z o.o.
53	Koszalin	202,402	Bocznica - "Progaz-Eurogaz" Sp. z o.o. Centrum Dystrybucji Gazu Płynnego w Koszalinie
54	Koszalin	202,402	Bocznica - CMC Putex Sp. z o.o. Zawiercie.Zakład Koszalin
55	Krosno Odrzańskie	358	Bocznica - HOMATRANS Sp. zo.o.
56	Krzyż	351	Bocznica - "HADEX" J. Czapracki / Ł. Zalewski
57	Krzyż	351	Bocznica - BAZA Kierownictwa Zmechanizowanych Robót Utrzymania Krzyż
58	Krzyż	351	Bocznica - PKP Energetyka S.A.
59	Legnica	137,275 , 289	RETURN BSK o/Legnica
60	Legnica	137,275 , 290	CARGOTOR - punkt ładunkowy
61	Leszno Górne	275	Bocznica Wojskowa 609 - Rejonowy Zarząd Infrastruktury Zielona Góra
62	Lubań Śląski	274	Bocznica - Eurovia Bazalt S.A. "Księginki"
63	Lubsko	275	Bocznica - "HOREX" S.C - A & E Horoszkiewicz
64	Malczyce	275	Rolimpex S.A. i Dolnośląskie Młyny S.A.
65	Malczyce	275	NAFTOBAZY Sp. z o.o.
66	Małomice	275	Tor nr 7 - WUPPERMANN POLSKA Sp. z o.o.
67	Mikulowa	274	Bocznica - PSE Stacja Elektroenergetyczna Mikulowa
68	Mścice	402	Bocznica - PZM "PZZ" w Stoisławiu
69	Myszków	14	Bocznica - Fabryka Papieru S.A.
70	Myszków	14	Bocznica - P.H.U. "Andrzej"
71	Myszków	14	DAR STAL Dariusz Zaława



72	Nowa Sól	273	Bocznica - tor nr 5a - TOM Sp. z o.o
73	Nowa Sól	273	Bocznica - Polski Koncern Naftowy ORLEN S.A.
74	Nowa Wieś Legnicka	137	Centrozłom Wrocław
75	Nowogard	402	Bocznica - PRD Pol-Drog Nowogard
76	Nowogród Bobrzański	370	Bocznica - GÓRAŻDŹE Cement S.A w Choruli
77	Nowogród Osiedle	370	Bocznica - Elewarr Sp. z o.o. w Warszawie
78	Nowogród Osiedle	370	Bocznica Wojskowa nr 719 - Rejonowy Zarząd Infrastruktury Zielona Góra
79	Okmiany	282	ZZEK - Zielonogórskie Kopalnie Surowców Mineralnych S.A.
80	Oleśnica	143,281	Miejska Gospodarka Komunalna Sp. Z o.o.
81	Oleśnica	143,281	Wagonownia - Sarkom Sp. Jawna
82	Oleśnica	143,281	Polskie Zakłady Zbożowe "BRZEG" S.A.
83	Oleśnica	143,281	Dolnośląskie Przedsiębiorstwo Handlu Opatem i Materiałami Budowlanymi "DOMAT" Sp. z o.o.
84	Oława	132	Bocznica nr 1 - Elektrolux Poland Sp. z o.o.
85	Oława	132	Bocznica nr 3 - WTÓRMET Sp. z o.o.
86	Oława	132	Przedsiębiorstwo Przerobu Żłomu Metali "CENTROZŁOM WROCŁAW"
87	Oława	132	ZNTK - Zakłady Naprawcze Taboru Kolejowego "OŁAWA" Sp. z o.o
88	Piława Górna	137	Bocznica - SIENIT S.A.
89	Poznań Wola	351	Bocznica - "ThyssenKrupp Energostal S.A.
90	Prostynia	403	Bocznica Wojskowa 822 - Rejonowy Zarząd Infrastruktury
91	Radnica	273	Bocznica Wojskowa 715 - Rejonowy Zarząd Infrastruktury Zielona Góra
92	Rogoźnica	137	Bocznica - Majkoltrans Sp. z o.o. - Eurovia Kruszywa Kopalnia Graniczna Goczałków
93	Rogoźnica	137	Bocznica - COLAS Kruszywa Sp. z o.o.
94	Rogoźnica	137	Bocznica - Dolnośląskie Przedsiębiorstwo Napraw Infrastruktury Komunikacyjnej DOLKOM Sp. z o.o
95	Rokita	401	Tor nr 101 - PKP CARGO S.A.
96	Rokitki	275	Jednostka Wojskowa nr 3036
97	Rudna Gwizdanów	273,289	KGHM Polska Miedź S.A. Oddział Huta Miedzi Cedynia w Orsku
98	Rzepin	3	Bocznica - "NEWHOME LOGISTICS Sp. z o.o."
99	Rzepin	3	Bocznica - Steinpol Meble Sp. z o.o.
100	Rzepin	3	Bocznica - Punkt Utrzymania i Napraw Taboru (LZPR ZG)
101	Rzepin	3	Bocznica - "REMKOL S.C."
102	Rzepin	3	Bocznica - PKP Energetyka S.A
103	Rzepin	273	Bocznica - "NEWHOME LOGISTICS Sp. z o.o."
104	Rzepin	273	Bocznica - Steinpol Meble Sp. z o.o
105	Rzepin	273	Bocznica - Punkt Utrzymania i Napraw Taboru (LZPR ZG)
106	Rzepin	273	Bocznica - "REMKOL S.C."
107	Rzepin	273	Bocznica - PKP Energetyka S.A.



10	8	Skibno	202	Bocznica - Lafarge Cemet Polska S.A. Miłogoszcz Miasto
10	9	Skokowa	271	ROLIMPEX S.A. O/we Wrocławiu Skokowa
11	0	Sławno	202	Bocznica - ABWood Sp. z o.o.
11	1	Stargard	351,202	Bocznica - Cukrownia "Kluczewo" S.A
11	2	Stargard	351,202	Bocznica - Przedsiębiorstwo Energetyki Ciepłej
11	3	Stargard	351,202	Bocznica - Zakład Napraw Infrastruktury w Stargardzie Szczecińskim
11	4	Stargard	351,202	Bocznica Wojskowa 821 - Rejonowy Zarząd Infrastruktury
11	5	Stargard	351,202	Bocznica - Van Heyghen Stal Polska Sp. z o.o.-zakład konfekcjonowania stali
11	6	Stargard	351,202	Zespół bocznic - Zakład Produkcyjny ZPS Sp. z o.o.
11	7	Stobno Szczecińskie	408	Bocznica - J&S ENERGY S.A. Pomorskie Biuro Handlowe
11	8	Strzelin	276	Bocznica - Mineral Polska Sp. z o.o.
11	9	Strzelin	276	Bocznica - Polskie Młyny
12	0	Szamotuły	351	Bocznica - "TOM Sp. z o.o. "
12	1	Szamotuły	351	Bocznica - "SCHOLZ POLSKA" Sp. z o.o.
12	2	Szamotuły	351	Bocznica - "ADM" Szamotuły Sp. z o.o.
12	3	Szamotuły	351	Bocznica - Glenport Sp. z o.o.
12	4	Szczecin Dąbie	401,428	Bocznica - Złomrex S.A.
12	5	Szczecin Dąbie	401,428	Bocznica - Polski Serwis Kolejowy Sp. z o.o. Szczecin Dąbie
12	6	Szczecin Dąbie	401,428	Bocznica - TOM Sp. z o.o
12	7	Szczecin Dąbie	401,428	Bocznica - CHARTWIG Szczecin Spedytorzy Międzynarodowi Sp. z o.o
12	8	Szczecin Dąbie	401,428	Bocznica - InterGas Sp. z o.o.
12	9	Szczecin Dąbie	401,428	Bocznica - Stena Złomet Sp. z o.o.
13	0	Szczecin Gumieńce	408,409	Bocznica - NKN Usługi Kolejowe Sp. z o.o
13	1	Szczecin Podjuchy	273,428	Bocznica-"EKO ENERGIA SZCZECIN" Sp. z o.o
13	2	Szczecin Port C. SPA	273,855	Bocznica - Zespół Elektrowni Dolna Odra S.A. Elektrownia nr 3 (Popiołki)
13	3	Szczecin Port C. SPA	273,855	Bocznica-PKP Energetyka S.A.-Stacja Paliw w Szczecinie
13	4	Szczecin Port C. SPA	273,855	Bocznica - Nabrzeża: Katowickie, Chorzowskie, Gliwickie, Bytomskie, Taśmowiec, Wałbrzyskie, Reg alica ZMPSiS S.A.
13	5	Szczecin Port C. SPA	273,855	Bocznica - Górażdże Cement S.A.
13	6	Szczecin Port C. SPB	273	Bocznica - Nabrzeże PARNICA BULK CARGO; ZMPSiS S.A
13	7	Szczecin Port C. SPB	273	Bocznica - Nabrzeże Górnośląskie BULK CARGO ZMPSiS S.A.



13 8	Szczecin Port C. SPB	273	Bocznica - Nabrzeże Noteckie BULK CARGO ZMPSiŚ S.A.
13 9	Szczecin Port C. SPB	273	Bocznica - Polski Koncern Naftowy ORLEN S.A., Baltchem Zakłady Chemiczne w Szczecinie
14 0	Szczecin Port C. SPB	273	Bocznica - PKP CARGO Wagon-Szczecin Sp zo.o.
14 1	Szczecin Port C. SPB	273	Bocznica - Rolsped Sp. z o.o.
14 2	Szczecin Port C. SPB	273	Bocznica - Zespół Elektrowni Dolna Odra S.A. Elektrownia nr 1
14 3	Szczecin Port C. SPB	273	Bocznica - Szczecińskie Zakłady Zbożowo - Młynarskie "PZZ" S.A.
14 4	Szczecin Port Centralny	273	Bocznica - Nabrzeże Rosyjskie - Nabrzeże Rumuńskie ZMPSiŚ S.A.
14 5	Szczecin Port Centralny	273	Bocznica - Nabrzeże Rosyjskie - Nabrzeże Rumuńskie ZMPSiŚ S.A.
14 6	Szczecin Port Centralny	273	Bocznica - Nabrzeże Rosyjskie Terminal Łasztowni ZMPSiŚ S.A.
14 7	Szczecin Port Centralny	273	Bocznica - Nabrzeże Rumuńskie - PCC Port Szczecin Sp. z o.o.
14 8	Szczecin Port Centralny	273	Bocznica - Nabrzeże Starówka - Nabrzeże Rumuńskie ZMPSiŚ S.A.
14 9	Szczecin Port Centralny	273	Bocznica - Nabrzeże Starówka - PCC Port Szczecin Sp. z o.o.
15 0	Szczecin Port Centralny	273	Bocznica - Nabrzeże Starówka - Nabrzeże Rosyjskie ZMPSiŚ S.A.
15 1	Szczecin Port Centralny	273	Bocznica - Nabrzeże Zbożowe "Elewator EWA" ZMPSiŚ S.A.
15 2	Szczecin Port Centralny	273	Bocznica - Ostrów Grabowski
15 3	Szczecin Port Centralny	273	Bocznica - Przedsiębiorstwo Produkcyjno - Usługowe "Port Rybacki Gryf" Sp. z o.o.
15 4	Szczecin Port Centralny	273	Bocznica - Przedsiębiorstwo Robót Cerpalnych i Podwodnych Sp. z o.o.
15 5	Szczecin Port Centralny	273	Bocznica - Zakłady Chemiczne Szczecin
15 6	Szczecin Port Centralny	273	Bocznica - CRONIMET PL Sp. z o.o.
15 7	Szczecin Port Centralny	273	Bocznica - Zachodniopomorskie Centrum Logistyczne (ZCL)
15 8	Szczecin Port Centralny	273	Bocznica - ALMEX Sp. z o.o.
15 9	Szczecin Port Centralny	273	Bocznica - FAST TERMINALS nabrzeża: Angielskie Belgijskie, Holenderskie, Luksemburskie ZMPSiŚ S.A.



16 0	Szczecin Port Centralny	273	Bocznica - Nabrzeż Starówka - Nabrzeże Czeskie ZMPSiS S.A.
16 1	Szczecin Port Centralny	273	Bocznica - Nabrzeże Czeskie i Słowackie - PCC Port Szczecin Sp. z o.o.
16 2	Szczecinek	404	Bocznica - "Kronospan 2" Sp. z o.o.
16 3	Szczecinek	404	Bocznica - "Kronospan" Sp. z o.o.
16 4	Szczecinek	404	Bocznica - "Kronospan 1" Sp. z o.o.
16 5	Szczecinek	404	Tor ładunkowy nr 53 z wagą wagonową - PKP CARGO S.A.
16 6	Ścinawa	273	Góraźdże Cement S.A.
16 7	Świdwin	202	Bocznica Wojskowa 832 - Jednostka Wojskowa nr 3294
16 8	Świdwin	202	Bocznica - tor nr 25 - ZŁOREX METAL Sp. z o.o.
16 9	Świdwin	202	Bocznica Wojskowa 830 - Jednostka Wojskowa nr 3294
17 0	Świdwin	202	Bocznica Wojskowa 849 - Jednostka Wojskowa nr 3294
17 1	Wałbrzych Fabryczny	274	Bocznica - Wałbrzyskie Zakłady Koksownicze "VICTORIA" Spółka Akcyjna
17 2	Wałbrzych Fabryczny	274	Bocznica - Wałbrzyskie Zakłady Koksownicze "VICTORIA" Spółka Akcyjna
17 3	Wałbrzych Fabryczny	274	Bocznica - Wałbrzyskie Zakłady Koksownicze "VICTORIA" Spółka Akcyjna
17 4	Wałbrzych Główny	274	Bocznica - Kopalnia Skalnych Surowców Bartnica Sp. z o.o.
17 5	Wałbrzych Główny	274	Bocznica - ALANEX - tor nr 101
17 6	Wałbrzych Miasto	274	Bocznica - Sp. Węglowa Tepal Sp. Jawna
17 7	Wałbrzych Szczawienko	274	Bocznica - Skład Opału Marek Rajca
17 8	Wałcz	403	Bocznica - Przedsiębiorstwo Prywatne Handlowo-Usługowe "PETROL-HAWEN" J.A. Zmyślony
17 9	Wałcz	403	Bocznica - Jednostka Wojskowa nr 1906
18 0	Wałowice	358	Bocznica - SCHOLZ POLSKA SP. z o.o.
18 1	Wawrów	203	Bocznica - " Elektrociepłownia Gorzów " S.A.
18 2	Węgliń	278,282	Bocznica PKP Energetyka S.A. - Stacja Paliw w Węglińcu
18 3	Wojanów	274	Bocznica - PHU "MÜLLER" A. Jarosz Kowary
18 4	Wrocław Główny	276	Dolnośląskie Przedsiębiorstwo Napraw Infrastruktury Komunikacyjnej DOLKOM
18 5	Wrocław Główny	276	Terminal kontenerowy Cargosped sp. z o.o.
18 6	Wrocław Kuźniki	273	Bocznica PRKiI - Przeds. Robót Kolejowych i Inżynierskich
18 7	Wrocław Kuźniki	273	STALEXPORT - "STALEXPORT SERWIS CENTRUM"
18 8	Wrocław Nadodrze	143	ZEW Kogeneracja



18 9	Wrocław Nadodrze	143	ODRATRANS – PORTY
19 0	Wrocław Osobowice	271	Przedsiębiorstwo Wielobranżowe "CENTROSTAL - WROCŁAW" S.A
19 1	Wrocław Popowice	143,271	Jednostka Wojskowa nr 1946
19 2	Wrocław Psie Pole	143	WHIRLPOOL Sp. z o.o.
19 3	Wrocław Psie Pole	143	WHIRLPOOL Sp. z o.o.
19 4	Wronki	351	Bocznica - "AMICA" Wronki S.A.
19 5	Wrocław Softysowice	143	Bocznica stacyjna Wrozamet 1 - WROZAMET S.A.
19 6	Wrocław Softysowice	143	Bocznica stacyjna Wrozamet 2 - WROZAMET S.A.
19 7	Wróblin Głogowski	273	Huta Głogów - POL-MIEDŹ Trans Sp. z o.o
19 8	Wschowa	14	Bocznica - Firma Kowalski Sławomir Kowalski Nietązkowo
19 9	Wschowa	14	Bocznica - Stena Sp. z o.o., Oddział w Swarzędziu
20 0	Zaręba	274	Bocznica - EUROVIA BAZALITY S.A. (Księginki II)
20 1	Ząbkowice Śląskie	137	Bocznica - Polskie Młyny S.A.
20 2	Zbąszynek	3,358,3 67	LACONI INTREMODAL S.A.
20 3	Zbąszynek	3,358,3 68	Bocznica - PKP Energetyka S.A.
20 4	Zbąszynek	3,358,3 69	Tory postojowe 30, 31, 32, 33 - ECCO Rail
20 5	Zbąszynek	3,358,3 70	Bocznica SWEDWOOD - Swedwood Poland Sp. z o.o. Oddział Fabryki WEST w Zbąszynku
20 6	Zbąszynek	3,358,3 71	Bocznica - RMPO- punkt obrządzania taboru tory 35a -40
20 7	Zbąszynek	3,358,3 72	Bocznica - RMPO- punkt obrządzania taboru tory 801-803
20 8	Ziębice	276	Tor za i wyładunkowy nr 6 - PKP CARGO S.A.
20 9	Żagań	14,275	Bocznica Wojskowa 712 - Rejonowy Zarząd Infrastruktury Zielona Góra
21 0	Żarów	274	Bocznica - DKOSW Eksport-Import
21 1	Żarów	274	Bocznica - TOM Sp. z o.o.
21 2	Żary	14,282, 370	Bocznica - KRONOPOL Sp. z o.o.
21 3	Żórawina	276	Bocznica - TIBNOR Sp. z o.o.

Source: own study based on PKP PLK S.A. data.

2.2. Analysis of the logistic market (Development and Trends)

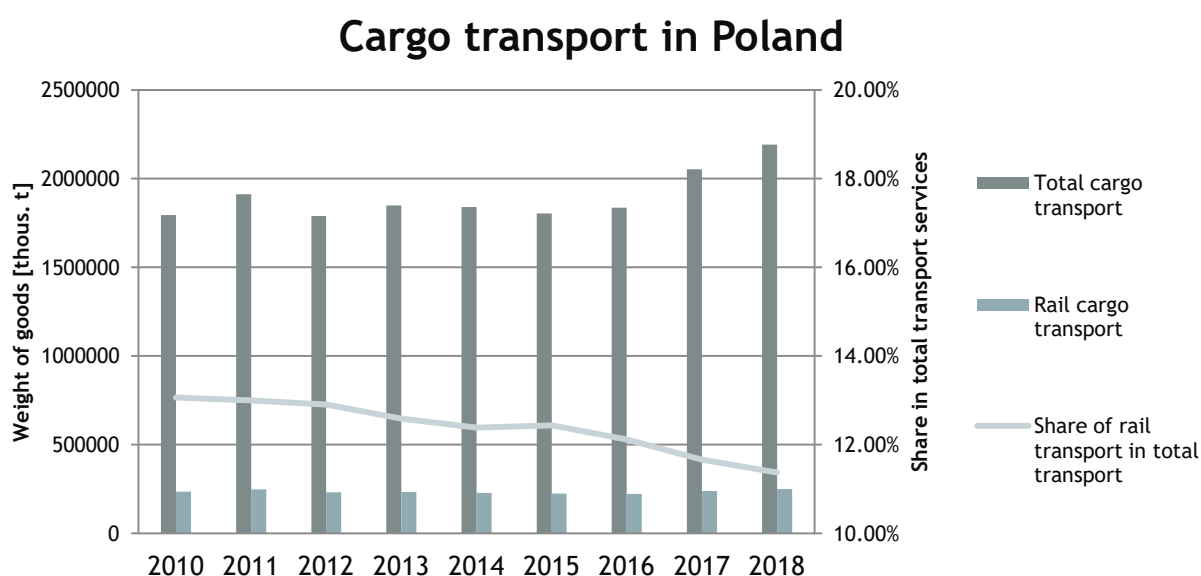
Since 2015, the freight transport market in Poland has been systematically growing. However, freight transport on the railways is growing at a slower rate to the total market, so the share of rail transport in total transport is decreasing. The described trend is well illustrated in Table no. 6 and Figure no. 3.

Table 6 Cargo transport in Poland

Year	Total cargo transport [thous. t]	Rail cargo transport [thous. t]	Share of rail transport in total transport
2018	2191888	249260	11,37%
2017	2053245	239501	11,66%
2016	1836652	222523	12,12%
2015	1803818	224320	12,44%
2014	1839961	227820	12,38%
2013	1848348	232596	12,58%
2012	1789345	230878	12,90%
2011	1912172	248606	13,00%
2010	1795573	234568	13,06%

Source: own study based on Statistics Poland (GUS) data

Figure 3 Cargo transport in Poland



Source: own study based on Statistics Poland (GUS) data.

In the transport of goods by rail, domestic transport is predominant, but its share is steadily decreasing, as shown in Table 7. It can be noted that until the end of the analyzed period, domestic rail freight transport



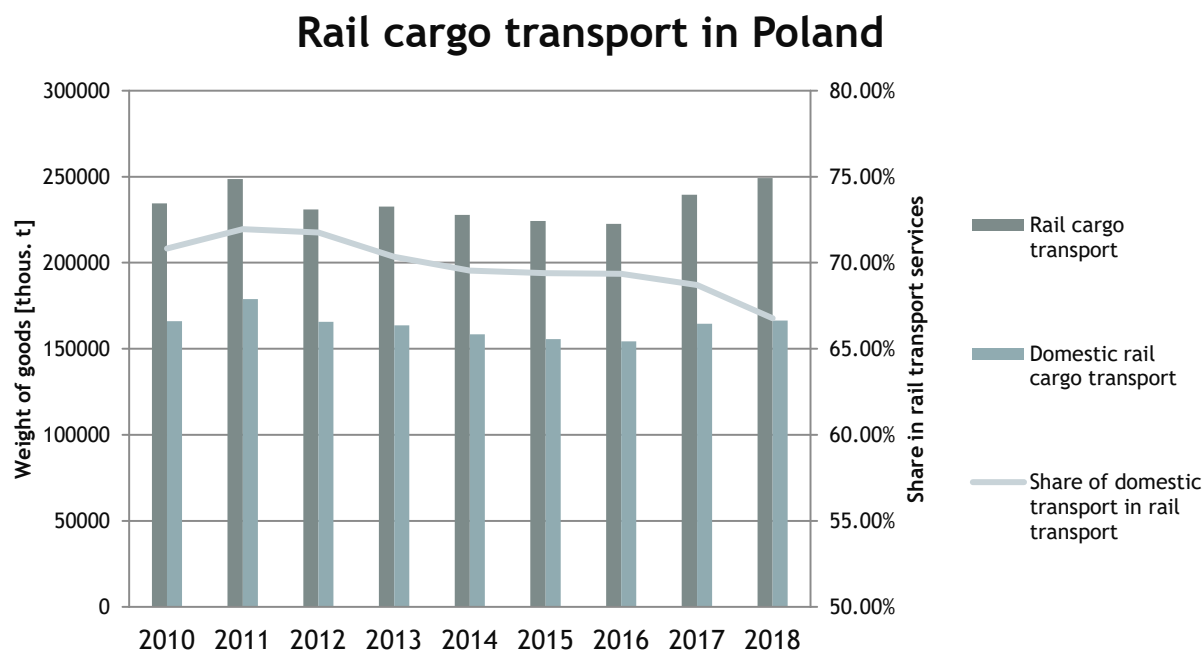
still has not reached the level of 2011, when, due to the intensification of construction works before the EURO 2012 European Football Championship, a record amount of freight was transported.

Table 7 Rail cargo transport in Poland

Year	Rail cargo transport [thous. t]	Domestic rail cargo transport [thous. t]	Share of domestic transport in rail transport
2018	249260	166438	66,77%
2017	239501	164562	68,71%
2016	222523	154325	69,35%
2015	224320	155685	69,40%
2014	227820	158437	69,54%
2013	232596	163610	70,34%
2012	230878	165687	71,76%
2011	248606	178877	71,95%
2010	234568	166118	70,82%

Source: own study based on Statistics Poland (GUS) data.

Figure 4 Rail cargo transport in Poland



Source: own study based on Statistics Poland (GUS) data.

Intermodal transport

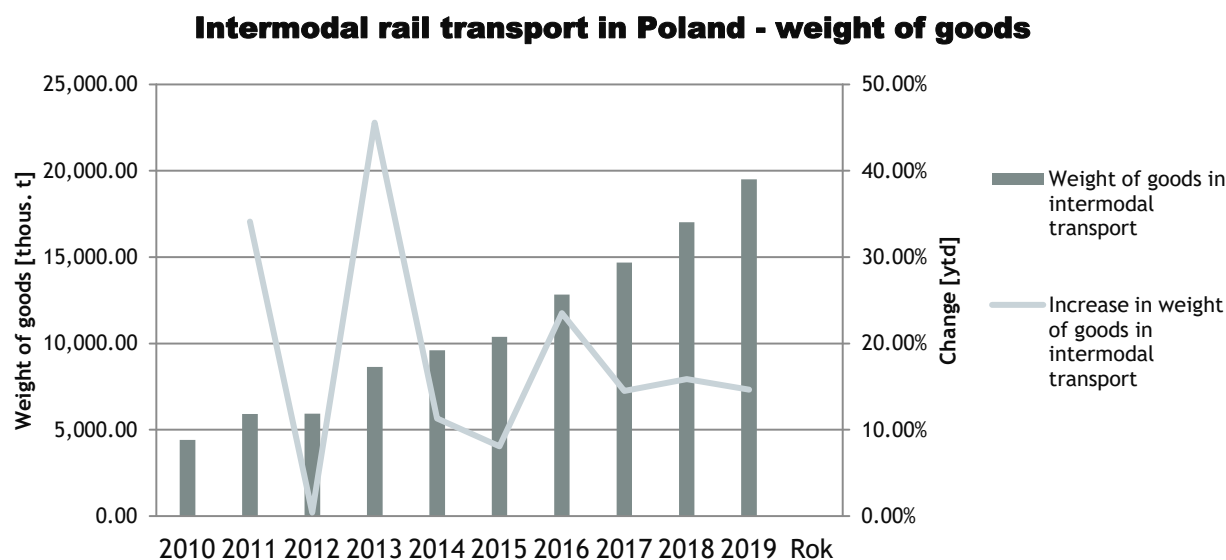
In the analysed period 2010-2019 a systematic development of intermodal rail transport in Poland can be observed. Particularly noteworthy are the years 2015-2019, when growth stabilised. The development of intermodal transport in terms of weight of goods, transport work and the number of TEU is presented in Table 9 and Figures 4, 5, 6.

Table 8 Intermodal rail transport in Poland

Year	Weight of goods in intermodal transport [thous. t]	Transport work in intermodal transport [million t-km]	Number of TEU in intermodal transport
2019	19509,4	7069,38	2 137 122
2018	17018,4	6161,63	1 893 524
2017	14687,8	5410,2	1 667 306
2016	12829,8	4441,1	1 436 328
2015	10386,4	3718,05	1 151 753
2014	9610,3	3401,66	1 114 173
2013	8633,2	3066,99	1 123 361
2012	5930,5	2254,96	775 035
2011	5906,2	2447,1	798 484
2010	4404,3	1888,03	583 623

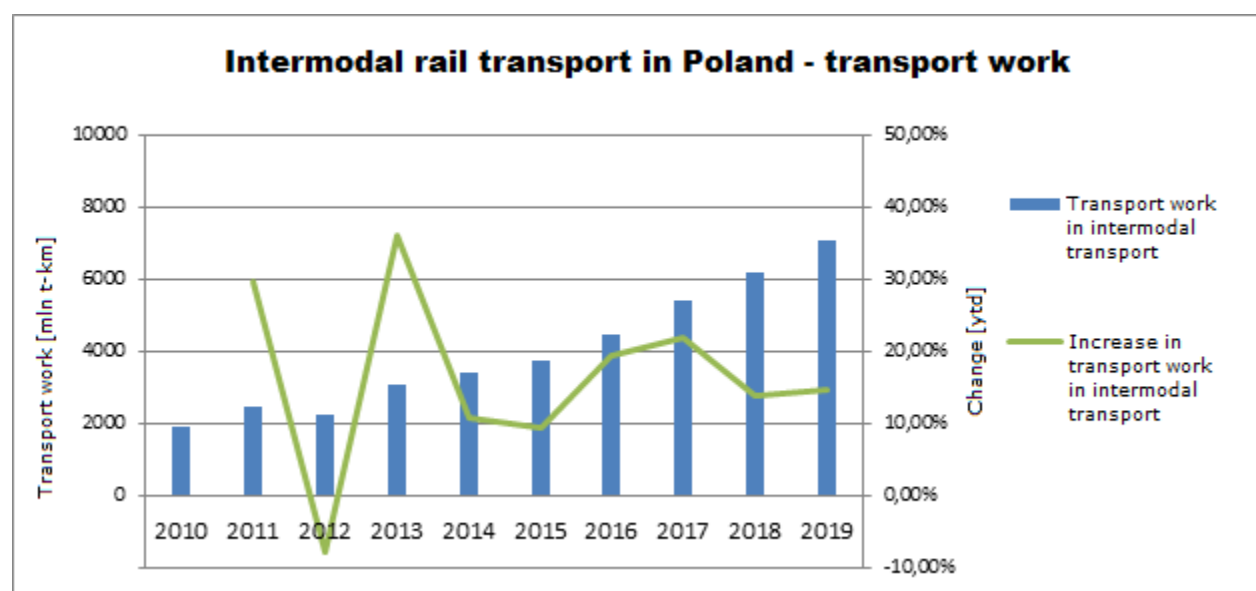
Source: own study based on The Office of Rail Transport (UTK) data

Figure 5 Intermodal rail transport in Poland - weight of goods



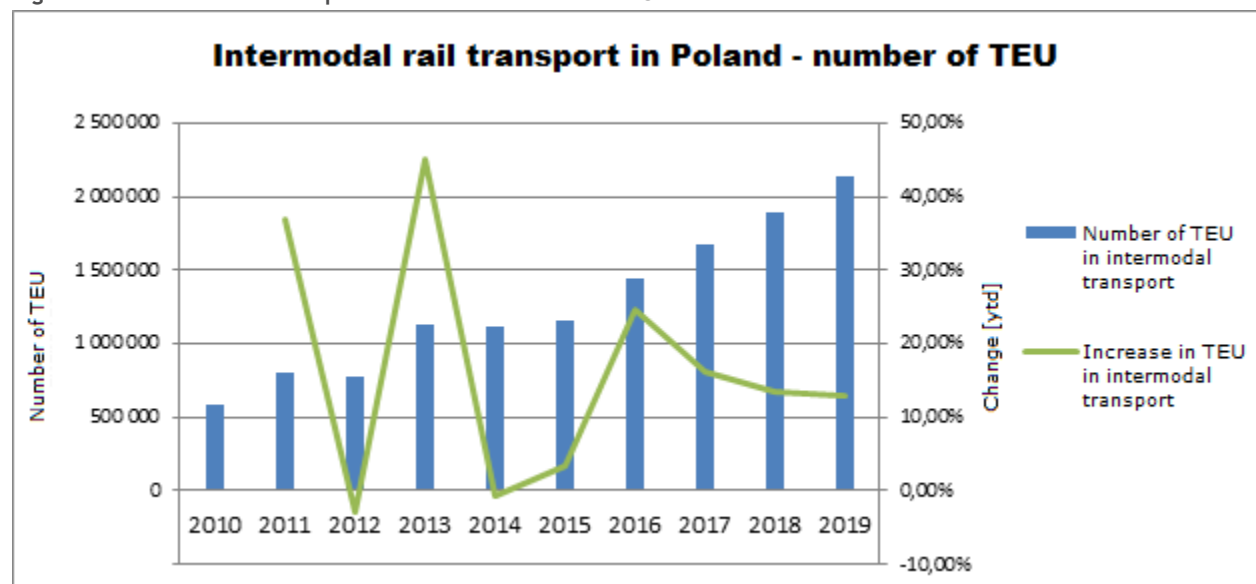
Source: own study based on The Office of Rail Transport (UTK) data.

Figure 6 Intermodal rail transport in Poland - transport work



Source: own study based on The Office of Rail Transport (UTK) data.

Figure 7 Intermodal rail transport in Poland - number of TEU



Source: own study based on The Office of Rail Transport (UTK) data.

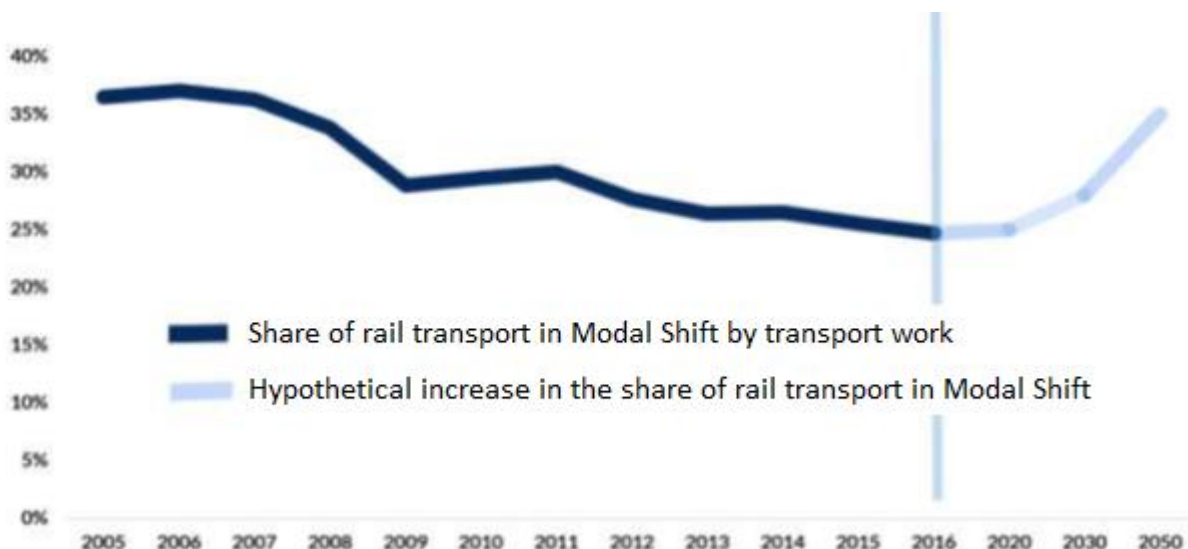
The President of the Office of Rail Transport published a summary of 2019 in the field of intermodal rail transport.¹

In order to determine the current chances of modal shift, the transport results of 2018 were analysed. The total weight of cargo was 2 192 million tonnes. Containers with a total cargo weight of 67.26 million tons were transhipped at intermodal terminals, which represents 3.06% of the total cargo weight. The total annual transshipment capacity of intermodal transport terminals in Poland amounted to 9.1 million TEU, including sea terminals - 6.3 million TEU and land terminals - 2.8 million TEU. Meanwhile, the transshipment of containers in intermodal terminals amounted to 7.3 million TEU, which means that 80% of the transshipment capacity of the intermodal terminals was used. From the above analysis, the following conclusions can be drawn: in the current situation intermodal transport is still marginalised, without significant investment in reloading infrastructure, the development of intermodal transport will be hampered by the depletion of reloading capacity in existing intermodal transport terminals.

Taking into account economic and political factors, the prospects for investment financing, which will be described in Chapter 2.3, the Office of Rail Transport has provided a forecast of the increase in the share of rail transport in freight transport, as shown in Figure 7. The forecast assumes that in 2050 the share of rail transport will return to 35%, the level observed 10 years before the forecast. This shows the scale of negligence in recent years, which will take more than 30 years to catch up, but also shows the potential for development of the rail freight market in Poland, which has developed disproportionately to the overall freight market in recent years.

Figure 8 Share of freight transport work performed by rail in Poland between 2005-2016 with a forecast by 2050

¹ <https://utk.gov.pl/pl/raporty-i-analizy/analizy-i-monitoring/analizy-i-opracowania/15928,Przewozy-intermodalne-w-2019-r.html>



Source: The Office of Rail Transport (UTK) based on Eurostat data.

Due to the global SARS-CoV-2 pandemic, forecasts presented in 2019 and earlier have become obsolete. The scale of the impact of the pandemic on individual industries has not yet been thoroughly investigated, but it is indicated that the regulations introduced will have relatively little direct impact on rail freight transport - cross-border traffic for freight has not been reduced. It is estimated that the indirect impact associated with the lockdown of the economy will be much greater. The steep decline in production and the projected GDP decline both in Poland and worldwide will significantly reduce demand for freight transport services. The change may concern the volume and type of goods transported, due to a sudden drop in demand for certain goods, such as building materials, with a simultaneous increase in demand for goods related to health care or raw materials and semi-finished products for their production. . In view of the residual data on the impact of the SARS-CoV-2 pandemic and the large spread of forecasts on this impact, it is impossible to provide a reliable forecast for the rail freight market during the preparation of this document.

2.3. Analysis of the economic, political and technical market conditions

One of the most important factors influencing the market potential of rail freight transport is the actions included in the European Commission's 2011 White Paper - Transport 2050. There is also a target that 30% of road freight transport over 300 km by 2030 should be carried out by alternative means. By 2050 it should be over 50%. This is undoubtedly an opportunity to develop rail freight transport.

The development of freight transport, in particular intermodal transport, is also emphasised by the government's "Strategy for Responsible Development to 2020 (with an outlook to 2030)". (SOR), which indicated that the increase in the share of road freight transport in recent years at the expense of all other modes of transport is worrying. The document also points out that "the growing role of road transport in the Polish transport system also results in increased pressure on public health, traffic safety and the environment".

The flagship government programme supporting railway is the National Railway Programme (KPK). It includes over 230 investment projects on railways, worth nearly PLN 76 billion. The overriding objective of the KPK is to significantly improve rail traffic in agglomerations, but also to raise the standard on regional routes and to improve conditions for freight transport. The implementation of the NCP is to allow easier access to railways, faster journeys, and to make railways more attractive as a freight carrier.

As one of the examples of projects carried out within the framework of the KPK, which will directly affect the potential of the freight market in Poland, the project "Improvement of the railway access infrastructure to the port of Gdańsk" can be indicated, involving an investment on line 226 and Gdańsk Port Północny station, line 965 and Gdańsk Kanał Kaszubski station, line 227/249 and Gdańsk Zaspas Towarowa station and line 722, for a total net amount of PLN 1.15 billion. The project will involve the reconstruction of more than 70 km of tracks, 13 railway and road crossings and pedestrian crossings as well, 221 switches will be replaced. Expansion of the local control centre, which will operate the modernised stations: Gdańsk Port Północny, Gdańsk Kanał Kaszubski, Gdańsk Zaspas Towarowa, will allow more efficient train traffic. The implementation of the project will allow for handling longer and heavier trains, i.e. reloading of more goods.

In the context of investments which have a positive impact on the potential of the rail freight market in Poland, it is worth noting the investments made by carriers. PKP CARGO, the largest rail freight carrier in Poland, has included them in its strategy and is currently increasing its operational capabilities in the intermodal market by purchasing modern rolling stock. In 2020, PKP CARGO will receive 400 modern container transport platforms, and by the end of 2022, a total of about 1100 will have been purchased. 40 electric locomotives have been purchased to operate them.

The potential of the transport market is created not only by investments but also by attractive services. Analyzing specific actions taken by logistics operators operating in Poland, one should pay attention to a truly innovative solution on the Polish rail freight market. In May 2020, PKP CARGO Connect, a company belonging to the PKP CARGO Group, launched regular operator trains, providing services several times a week, with fixed hours on three routes: Gdańsk - Warszawa Praga, Gdańsk - Poznań Franowo i Gdańsk - Gliwice B Kontenerowa. Containers will be transported on the platforms from and to the port of Gdańsk, which is the largest container transshipment terminal in the Baltic Sea. The regular operating hours of operator trains are a simplification in the construction of logistics chains, it is expected that operator trains will meet with considerable interest and will contribute to the popularisation of intermodal transport in Poland, regular connections on popular international routes are also planned.

Due to the pioneering approach to the intermodal transport market in Poland, operator trains have met with considerable interest from industry media.²

Figure 9 Regular operator trains PKP CARGO Connect



Source: Materials PKP Cargo Connect

A significant factor that will affect the rail freight market in Poland is the announced gradual departure from coal as an energy fuel. According to the European Commission, the European Union is to be neutral in terms of greenhouse gas emissions by 2050, with 80% of the electricity generated coming from renewable sources. Similar ideas have been proclaimed at the UN climate summit. As a rule, the presented direction should be extremely beneficial for rail transport, due to its ecological character in terms of CO₂ emissions. The obvious effect should be to intensify efforts to ensure that as much road transported freight as possible is shifted to the rail transport. However, in case of the Polish transport market, the matter is much more complicated. Due to the Polish energy mix, where almost 80% of energy comes from burning coal and coal itself is a key commodity transported by rail. In 2019, the railway transported 236.40 million tons of cargo, of which 91.12 million tons were products from the "coal, lignite, oil and natural gas" commodity group, which accounts for 38.5% of the total weight of goods.

² <https://www.nakolei.pl/pkp-cargo-connect-rusza-z-nowa-marka-pociagow-operatorских-connect-operator/>

The energy transformation in Poland will take place slowly, as developed by the government "National Plan for Energy and Climate 2021-2030". (KEPIK), which contains national assumptions and objectives as well as policies and measures to implement the energy objectives set by the European Commission, assumes that by 2030 Poland will achieve a 21% share of RES in gross final energy consumption. The proposed pace of change represents an opportunity for the rail freight market, providing time to adapt to the transport of other freight groups, diversifying the order book, seeking new service users who have not been interested in rail freight so far.

2.4. Analysis of the industrial structure and clusters (potential customers)

In order to develop an analysis of the region's transport potential, regional clusters, Special Economic Zones and zones in close proximity to railway sidings were analyzed in detail. In the analysis, account was taken of those enterprises whose production or materials are eligible for rail transport and the size of the enterprise is large enough to consider using rail transport or is already using rail freight transport. In this way, 100 companies have been selected to influence the development of the Baltic-Adriatic TEN-T core network corridor. The main transported goods are wood products, agricultural products, steel products, coal and mining aggregates. Due to the fact that companies from the Automotiv sector are mainly present in the Lubuskie region, the development of intermodal transport in this sector should be expected as well. Considering the planned development of operator connections within the framework of the PKP Cargo strategy, which are described in chapter 2.3, an increase in the importance of rail transport among small and medium-sized enterprises should also be expected. Unfortunately, the launch of the service in this model and the extension of the connection network is planned for the second half of 2020, which makes it impossible at present to indicate the possible impact of the offer on the market.

Table 9 List of goods that can be transported in the region

Goods (for regions)	High rail freight suitability	
	Yes	no
household appliances	X	
concrete	X	
sheet metal	X	
bronze	X	
wood briquette	X	
beets	X	
cement	X	
tankers	X	
parts for industrial machinery	X	
wood	X	
copper wires	X	
automotive equipment	X	
Euro-pallets	X	
gas	X	
apples	X	
stone	X	
hydrotechnical stone	X	
glues	X	
coke (fuel)	X	
containers	X	
paving stone	X	
granite cube	X	
syenite	X	
granite kerbs	X	



aggregates	X	
silicates	X	
sulphuric acid	X	
pasta	X	
bitumen	X	
paper pulp	X	
cutting machines	X	
building materials	X	
flour	X	
furniture	X	
non-ferrous metals	X	
fine coal	X	
copper	X	
mineral-asphalt mixtures	X	
tools	X	
fertilisers	X	
chemical reagents	X	
waste	X	
heating oil	X	
lead	X	
Rail equipment	X	
fuels	X	
paper	X	
feeds	X	
hoists	X	
railroad ballast	X	
disinfectants and antibacterial preparations	X	
rods and pipes	X	
pharmaceutical products	X	
agricultural products	X	
brass profiles	X	
industrial gears	X	
crude oil	X	
RTV	X	
selenium	X	
copper sulfate	X	
engines	X	
gearboxes	X	
salt	X	
steel	X	
recyclable materials	X	
fencing systems	X	
formwork	X	
plastics	X	

coal	X	
steelmaking	X	
toys	X	
scrap	X	
irons	X	

Source: Own study

Table 10 List of loading units and types of transport units

Loading Units (for ports)	High rail freight suitability	
	yes	no
Kontener ISO	x	
Naczepa	x	
Eurokontener	x	
Wagon węglowy	x	
Wagon chłodnia	x	
Wagon kryty	x	
Wagon specjalny	x	
Wagon UCS	x	
Cysterna	x	
Platforma	x	
Europaleta	x	

Source: Own study

Table 11 List of potential enterprises using rail transport

Industries/companies		High freight suitability	
(for refions only)	Region	yes	no
"Złomstal" Firma Handlowo-Usługowa Imbramowice	dolnośląskie	x	
Centrozłom Wrocław	dolnośląskie	x	
COLAS Kruszywa Sp. z o.o.	dolnośląskie	x	
Eurovia Bazalt S.A. "Księginki"	dolnośląskie	x	
Fabryka Maszyn Budowlanych "Famaba" w Głogowie	dolnośląskie	x	
KGHM Polska Miedź S.A.	dolnośląskie	x	
Kopalnia Granitu "GNIEWKÓW" Sp. z o.o.	dolnośląskie	x	
Kopalnia Granitu ZIMNIK "TINARG" Sp. z o.o.	dolnośląskie	x	
Mineral Polska Sp. z o.o.- kopalnia granitu Strzelin	dolnośląskie	x	
Kaufland Polska Markety Sp. z o.o.	dolnośląskie	x	
PCC Rokita SA.	dolnośląskie	x	
Dolnośląskie Młyny S.A.	dolnośląskie	x	
Przedsiębiorstwo Wielobranżowe "CENTROSTAL - WROCLAW" S.A	dolnośląskie	x	
PW Rupex2	dolnośląskie	x	
Skład Opału Marek Rajca	dolnośląskie	x	
STALEXPORT - "STALEXPORT SERWIS CENTRUM"	dolnośląskie	x	
SSAB Poland Sp. z o.o.	dolnośląskie	x	



Wałbrzyskie Zakłady Koksownicze "VICTORIA" Spółka Akcyjna	dolnośląskie	x	
WHIRLPOOL Sp. z o.o.	dolnośląskie	x	
FagorMastercook S.A.	dolnośląskie	x	
WTÓRMET Sp. z o.o.	dolnośląskie	x	
Zespół Elektrociepłowni Wrocławskich KOGENERACJA S.A.	dolnośląskie	x	
Złomrex S.A.	dolnośląskie	x	
GEDEON spółka jawna	dolnośląskie	x	
Miejski Zakład Energetyki Ciepłej w Świdnicy Sp. z o. o.	dolnośląskie	x	
KUŹNIA JAWOR S.A.	dolnośląskie	x	
KONSTAL Sp. z o.o.	dolnośląskie	x	
MALTEX-MALCZYSZYN	dolnośląskie	x	
MATUSEWICZ BUDOWA MASZYN S.J.	dolnośląskie	x	
Ravison Polska	dolnośląskie	x	
RETOOL	dolnośląskie	x	
SANHA Polska Sp. z o.o.	dolnośląskie	x	
Zakład Mechaniczno – Handlowy ZAMEH	dolnośląskie	x	
Zakład Produkcyjno-Usługowy "Wromet-Tools" Sp. z o.o.	dolnośląskie	x	
ANIMAK-KOPCZA S.C. J.E. Kopcza	dolnośląskie	x	
Oleofarm Sp. z o.o	dolnośląskie	x	
Nordglass II. Producent szyb. Szkło laminowane i hartowane	dolnośląskie	x	
AB SA GK	dolnośląskie	x	
Volkswagen Motor Polska Sp. z o.o.	dolnośląskie	x	
CCC SA GK	dolnośląskie	x	
Pfleiderer Group SA GK	dolnośląskie	x	
KTK Polska Sp. z o.o.	dolnośląskie, zachodniopomorskie	x	
Orlen-Gaz Sp. z o.o.	dolnośląskie, zachodniopomorskie	x	
ArcelorMittal	dolnośląskie	x	
Lafarge	dolnośląskie, zachodniopomorskie, lubuskie	x	
" Elektrociepłownia Gorzów " S.A.	lubuskie	x	
"Arctic Paper Kostrzyn S.A."	lubuskie	x	
Firma Kowalski Sławomir Kowalski Nietążkowo	lubuskie	x	
KRONOPOL Sp. z o.o.	lubuskie	x	
NAFTOBAZY Sp. z o.o.	lubuskie	x	
VITROSILICON S.A.	lubuskie	x	
Waldorf Statler Properties	lubuskie	x	
WUPPERMANN POLSKA Sp. z o.o.	lubuskie	x	
ae group polska sp. z o.o.	Lubuskie	x	
TELEMOND Sp. z o.o.	Lubuskie	x	
KTM S.A.	lubuskie	x	
Cemex	lubuskie	x	
Staltrans S.C.	lubuskie	x	



Gedia Poland	lubuskie	x	
Hanke Tissue	lubuskie	x	
IKEA INDUSTRY	lubuskie	x	
Jost Polska Sp. z o.o.	lubuskie	x	
IDEAL Automotive Swidnica sp. z o.o.	lubuskie	x	
Przedsiębiorstwo Przerobu Żłomu Metali "CENTROŻŁOM WROCŁAW"	lubuskie, dolnośląskie	x	
"Żłomostal" Renata i Zbigniew Puzio Sp. Jawna	zachodniopomorskie	x	
"EKO ENERGIA SZCZECIN" Sp. z o.o.	zachodniopomorskie	x	
"Kronospan" Sp. z o.o.	zachodniopomorskie	x	
"Progas- Eurogaz" Sp. z o.o. Centrum Dystrybucji Gazu Płynnego w Koszalinie	zachodniopomorskie	x	
ABWood Sp. z o.o.	zachodniopomorskie	x	
Agrochem Puławy	zachodniopomorskie	x	
ALMEX Sp. z o.o.	zachodniopomorskie	x	
Cukrownia "Kluczewo" S.A	zachodniopomorskie	x	
Glenport Sp. z o.o.	zachodniopomorskie	x	
InterGas Sp. z o.o.	zachodniopomorskie	x	
Miejska Energetyka Ciepła Sp. z o.o.	zachodniopomorskie	x	
PRD Pol-Drog Nowogard	zachodniopomorskie	x	
PZM "PZZ" w Stożewie	zachodniopomorskie	x	
Szczecińskie Zakłady Zbożowe - Młynarskie "PZZ" S.A.	zachodniopomorskie	x	
Zespół Elektrowni Dolna Odra S.A.	zachodniopomorskie	x	
Finomar Sp. z o.o.	zachodniopomorskie	x	
Navikon SRY Sp. z o.o.	zachodniopomorskie	x	
Grupa Azoty Police Serwis Sp. z o.o.	zachodniopomorskie	x	
BT STAL Sp. z o.o.	zachodniopomorskie	x	
CERMAR Sp. z o.o.	zachodniopomorskie	x	
DRUT-PLAST CABLES Sp. z o.o.	zachodniopomorskie	x	
STr SHIPPING and TRADING Sp. z o.o.	zachodniopomorskie	x	
SM TECHNOLOGIE Sp. z o.o.	zachodniopomorskie	x	
EWM AG Spółka Akcyjna	zachodniopomorskie	x	
KUCA Sp. z o.o.	zachodniopomorskie	x	
POLSKIE ZAKŁADY ZBOŻOWE Sp. z o.o.	zachodniopomorskie	x	
TVILUM Sp. z o.o.	zachodniopomorskie	x	
Carl Stahl Tech Service Sp. z o.o.	zachodniopomorskie	x	
P S METALWORKING SP. Z O. O.	zachodniopomorskie	x	
Jeronimo Martins Polska S.A. Centrum Dystrybucyjne Koszalin	zachodniopomorskie	x	
Q4Glass, ABJ Investors Sp. z o.o., Spółka Komandytowa	zachodniopomorskie	x	
Q4Sash Windows Sp. z o.o.	zachodniopomorskie	x	
SWEDWOOD - Swedwood Poland Sp. z o.o.	zachodniopomorskie	x	
Polski Koncern Naftowy ORLEN S.A.	zachodniopomorskie, lubuskie, dolnośląskie	x	

Source: Own study

3. Status quo Analysis of Market Potential in Hungary

General features

As a result of the financial and economic crisis that began at the end of 2008, the development of Hungarian rail freight transport declined significantly (by almost 20%).

In rail freight, the average freight volume was 50-53 million tonnes per year, while the annual freight capacity was between 9-10.5 billion freight ton km (2006-2016). In 2017, an outstanding transmission capacity of 11.4 billion freight ton km was realized on the domestic railway network. Overall, the volume of tonne-kilometres grew much faster than the mass of goods transported (measured in tonnes). This means that the volume of goods transported increased only to a relatively small extent, but these goods were transported over greater distances.

The share of rail freight (18.9% in 2017) is practically the same as at the time of accession of Hungary to the European Union in 2004, slightly above the EU average.

The distribution of domestic rail freight in domestic and international traffic is 30-70%. On the one hand it means that rail freight is much more exposed to the international economic situation (boom, downturn) and their changes. On the other hand it means that the rail freight in the current operating environment in the domestic transport market is less competitive compared to road transport.

The domestic railway transport is very well embedded in the international environment, during its development it is especially important to know the operating environment of the surrounding countries, to examine the adaptation possibilities of the “good practices” applied there.

Domestic rail freight flows

In terms of the direction of rail freight flows, it can be said that export turnover is mainly localized in the central and north-western part of Hungary. Export trade is mainly determined by products of medium and high value density.

In import traffic, the north-western and north-eastern directions are dominant. Rail import traffic is mainly characterized by products of low value density (e.g. raw materials).

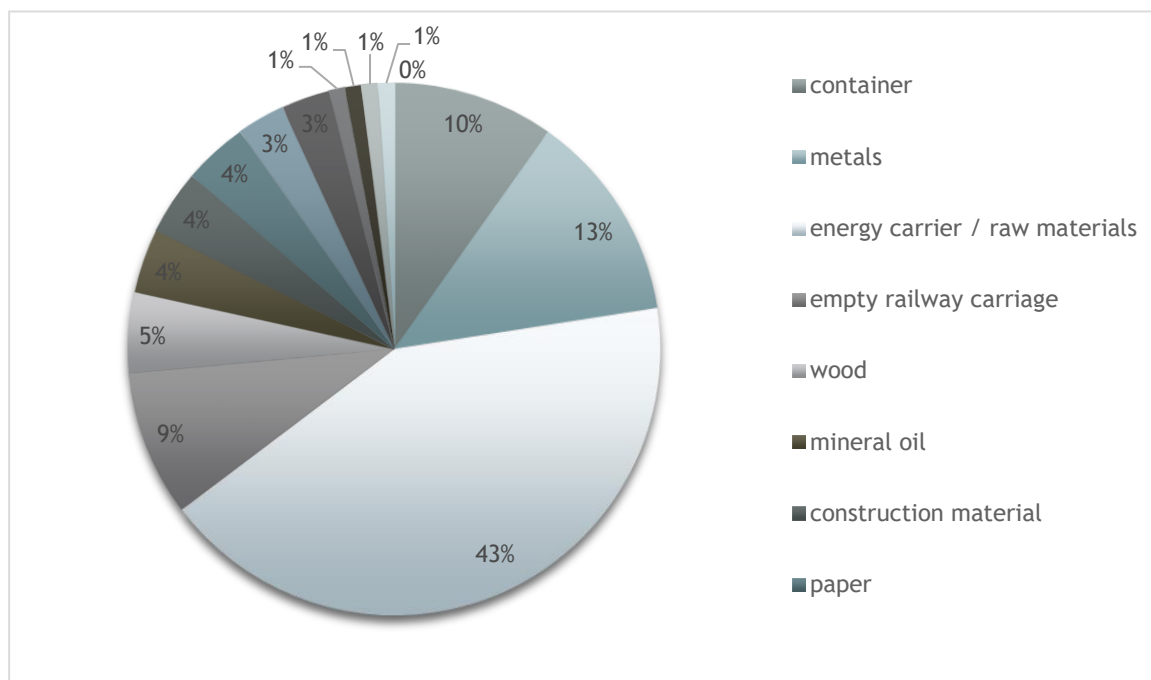
Transit traffic is dominated by the north-western and south-eastern directions. The volume of transit traffic, with the exception of rail imports, significantly exceeds export and import traffic.

Distribution of goods transported by rail

Regarding the group of goods, there has been no significant change in road and rail freight in recent years. The figure shows well that more than 40% of the domestic rail freight turnover is exposed by energy and raw materials, while the share of other groups of goods (excluding 13% of metals) does not exceed 10%. The proportion of combined transport is 12%.

The fact that the distribution centres of multinational commercial companies in Hungary were not located next to railways, but next to road intersections without the possibility of railway services, had an unfavourable effect on railway traffic.

Figure 10 Distribution of goods transported by rail



Railway infrastructure

The density of the domestic railway network is adequate. About 7712 km of national railway network is operated by the Hungarian State Railways (MÁV) and the Hungarian-Austrian railway company (GYSEV), its technical construction and condition in most cases does not meet the needs of freight transport and is significantly lower than the EU15 (old member states) average.

Hungary's transport network is centered in Budapest and has a radial layout. Cross-connections are missing or of poor quality in both in the rail and in road networks.

The domestic railway network in Hungary - with the axle load of 210 kN - is one of the weakest in Central Europe, compared to the neighbouring countries and Western Europe where the axle load of 225 kN is ensured on the main transport routes.

Hungary's location in terms of transit flows is logistically favourable, but there are competitions with the railway lines of neighbouring countries.

Figure 11 Freight gross ton-kilometres in Hungary

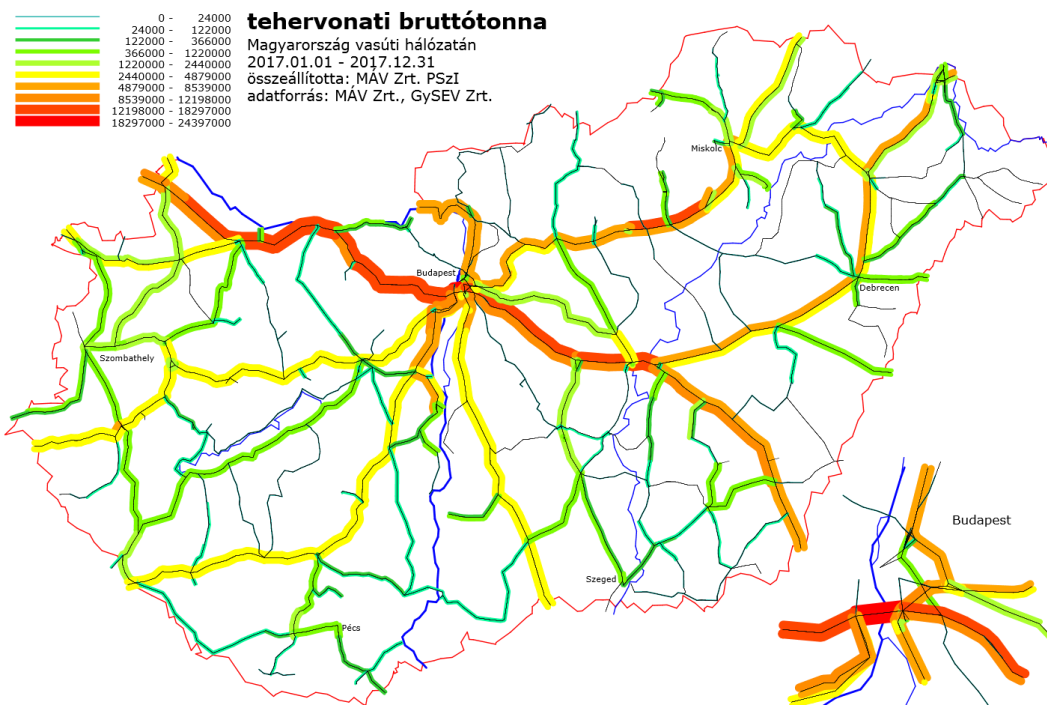
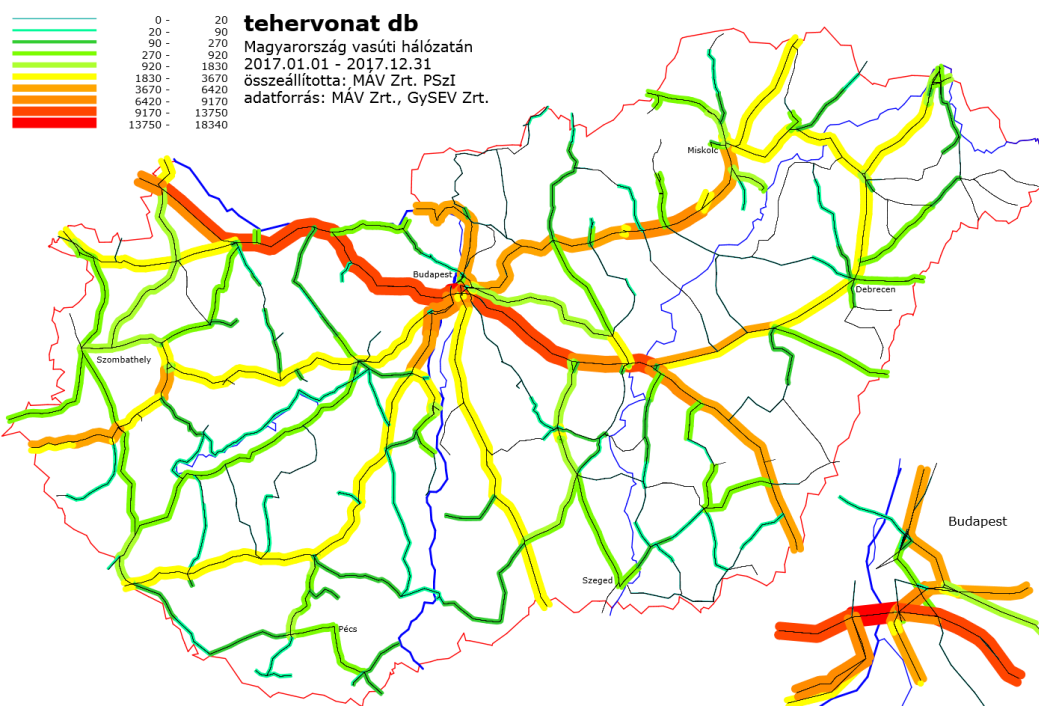


Figure 12 Number of freight trains running on the domestic railway network in Hungary



In the freight segment, the Hegyeshalom-Lőkösháza Orient / East-Med TEN-T core network corridor has the highest load. In addition, there is a very significant load on certain domestic sections of the Mediterranean TEN-T core network corridor (Hodos-Boba-Székesfehérvár-Budapest-Szolnok-Záhony) and on the Budapest-Pusztaszabolcs-Dunaújváros railway line.

The structure of the domestic rail freight market

The structure of the domestic rail freight market is characterized by the fact that as a result of market opening (liberalization) in rail freight, the number of freight railway companies has increased significantly, there is strong competition almost exclusively in the block train segment, but the volume of freight did not increase between 2008-2016. Market opening itself was not enough to shift some goods from road to rail, and real market competition in rail freight can only be seen in the block train segment.

In 2017, 52.8 million tons of goods were transported on the domestic railway network, 11.4 billion freight ton km, 19.3 million train km, 24.5 billion gross ton-kilometres was realized, about 170 thousand freight trains were transported.

Comparison of international and domestic conditions

In 2016, a total of 4,144.4 million train km were performed on the railway networks of the countries of the European Union (82% passenger trains and 18% freight trains). The Hungarian rail network had a similar distribution of 106.7 million train km. The average rail network density in the European Union was 19000 train km / 1 line km, while in Hungary it is 13770 train km / 1 line km, which means that the rail network density in Hungary is lower (72% of it) compared to the EU average.

Hungary still has one of the densest railway networks in Europe. There are 848 kilometres of railway lines per 10 000 square kilometres (the EU average is around 500 km), which means that only the Czech Republic, Belgium, Germany and Luxembourg are ahead of Hungary.

In 2016, the length of the railway network operated in the EU countries was 217,100 km, 116,600 km (54%) were electrified, while in Hungary 39.9% (3,090 km) of the 7,712 km long railway network is electrified.

There are only minimal amounts and lengths of slow orders on the Western European rail networks, while 47% of the domestic network in Hungary is loaded with slow orders. The Hungarian rail network is far behind EU railways in terms of permitted speed. Only some sections of the railway line have an increased speed of 140-160 km / h, most of the main line sections can be passed at 100-120 km / h.

Compared to the permitted track speed, there was a permanent speed limit of almost 3,200 km along the network, mainly due to the extremely degraded condition of the roadbed. Nearly 40% of the Trans-European sections (3759 km), which are of major importance for rail freight transport, had / still have speed limits (1100 km permanent and 350 km temporary).

The rail network lags far behind in terms of the length of double-track lines, since only 19% of the total line length is double-tracked compared to the EU average (more than 42%).

Hungary is in the middle-rank of the EU regarding the automatic block signal, but the gap in the field of modern station interlocking equipment and central traffic management is significant.

The number of railway bridges crossing large rivers (Danube, Tisza) is low and their condition is unsatisfactory.

4. Summary and recommendation

The following aspects were analysed in the above study:

- State of the railway infrastructure
- Transshipment and loading capacity - Rail terminals and sidings
- Freight railway undertakings
- Weight of goods carried
- Political situation
- New technologies and opportunities for transport development
- Transport potential of the region
- Planned infrastructure investments

On the basis of the above, a SWOT analysis was developed showing the most important aspects of rail transport potential within the TEN-T Baltic-Adriatic core network corridor.

Table 12 SWOT analysis of the region's transport potential

Strengths	Weaknesses
<ul style="list-style-type: none"> Investments in the intermodal rolling stock of freight carriers in Poland High development potential of the studied area in terms of demand for intermodal services European policy to support the development of rail freight transport Cargo does not need to be adapted to the conditions of carriage by intermodal transport The goods can be transported in various intermodal units (container, swap body, semi-trailer) Long transport distances to/from the ferry terminal in Świnoujście carried out by road transport justifying the use of rail transport 	<ul style="list-style-type: none"> Insufficiently developed network of intermodal terminals Limited transport offer Long service time for rail in the logistics chain due to additional intermodal transport operations Non-integrated IT systems between partners in the logistics chain The necessity of transporting and withdrawing cargo to and from land-based intermodal terminals Non-compliance of railway lines with AGTC and ERTMS/ETCS standards Inland waterway based intermodal connections cannot be launched Low flexibility of rail connections
Opportunities	Threats
<ul style="list-style-type: none"> Expansion of the network of operator connections between intermodal terminals and ports in Poland Compensation of infrastructure access costs for different modes of transport Expansion of port and intermodal infrastructure -The policy of sustainable development of the European 	<ul style="list-style-type: none"> The economic crisis linked to the global epidemic Reduction of demand for products created in the analysed area Drop in funding for infrastructure investments under the new EU perspective Change in transport policy in Poland and Hungary Risk of congestion of intermodal terminals/ports due to insufficient

<p>Union implemented, among others, through financial support programmes for intermodal transport (e.g. CEF fund)</p> <ul style="list-style-type: none"> • Adaptation of railway lines in the BAC corridor to AGTC and ERTMS standards by 2030 • Integration of IT systems 	<p>transshipment capacity considering the growing demand for intermodal transport services</p>
--	--

Source: Own study

The area of the Baltic-Adriatic TEN-T core network corridor, has high business development potential. It is home to many companies from the Automotiv industry, companies using metallurgical products, logistics centres of large food concerns, also mines and quarries. This potential is compounded by the wide access to railway sidings connected to modernised railway lines, which give access to sea ports. The activities of the carriers, which consist in extending their service offerings with new activities and investments in new rolling stock or expansion of terminals, and the infrastructure managers in infrastructure investments with a special reference to the port infrastructure, also offer great hope for development. These are extremely necessary as there are still insufficient intermodal terminals in the area under examination, resulting in the risk of congestion in ports and terminals due to the exhaustion of handling capacity. However, even the multitude of investments in infrastructure and rolling stock will not help in the face of the economic crisis in connection with the SARS-CoV-2 pandemic. A decrease in demand for products manufactured in companies located in the area under investigation will result in a reduction in transport work and the weight of goods transported by rail. At present, it is impossible to estimate the scale of this problem.

In the face of the crisis, an opportunity for rail freight transport is an attractive offer of operator connections. Increasing the attractiveness of intermodal rail transport is particularly important in view of the difficult disadvantages of this type of transport, such as additional intermodal transport operations extending the service time of rail in the logistics chain and the low flexibility of rail services. It is also promising that by 2030 the railway lines in the BAC corridor will be adapted to AGTC and ERTMS standards, which will make the lines there more attractive especially for European contractors.

Recommendations:

- Reducing infrastructure access rates will make rail and road transport more equal where alternatives are possible;
- Support for investments in intermodal terminals will enable rail freight transport for companies that do not have railway sidings in their area;
- Maintain similar levels of funding for rail infrastructure projects under the new EU perspective;
- Using new sources and tools for financing infrastructure and rolling stock investments (e.g. investment loans, public-private partnerships);
- Increasing the significance of rail transport within port terminals by improving rail infrastructure in ports.

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