



PKP POLSKIE LINIE KOLEJOWE S.A.

*Railway of
the new technologies*

Investment projects on PKP Polish Railway Lines network

Beijing, July 2012

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(PKP Polish Railway Lines JSC)



The most important data concerning PKP PLK S.A. network

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PKP Polskie Linie Kolejowe S.A. is a company of the PKP Group and is responsible for maintenance of railway lines, railway traffic management, construction of timetables and management over railway properties.

PKP PLK S.A. network:

19 276 km of railway lines
(i.e. 37 150 km of tracks)
43 657 turnouts
16 464 rail-road level crossings
25 591 engineering structures
6 525 buildings
11 544 structures



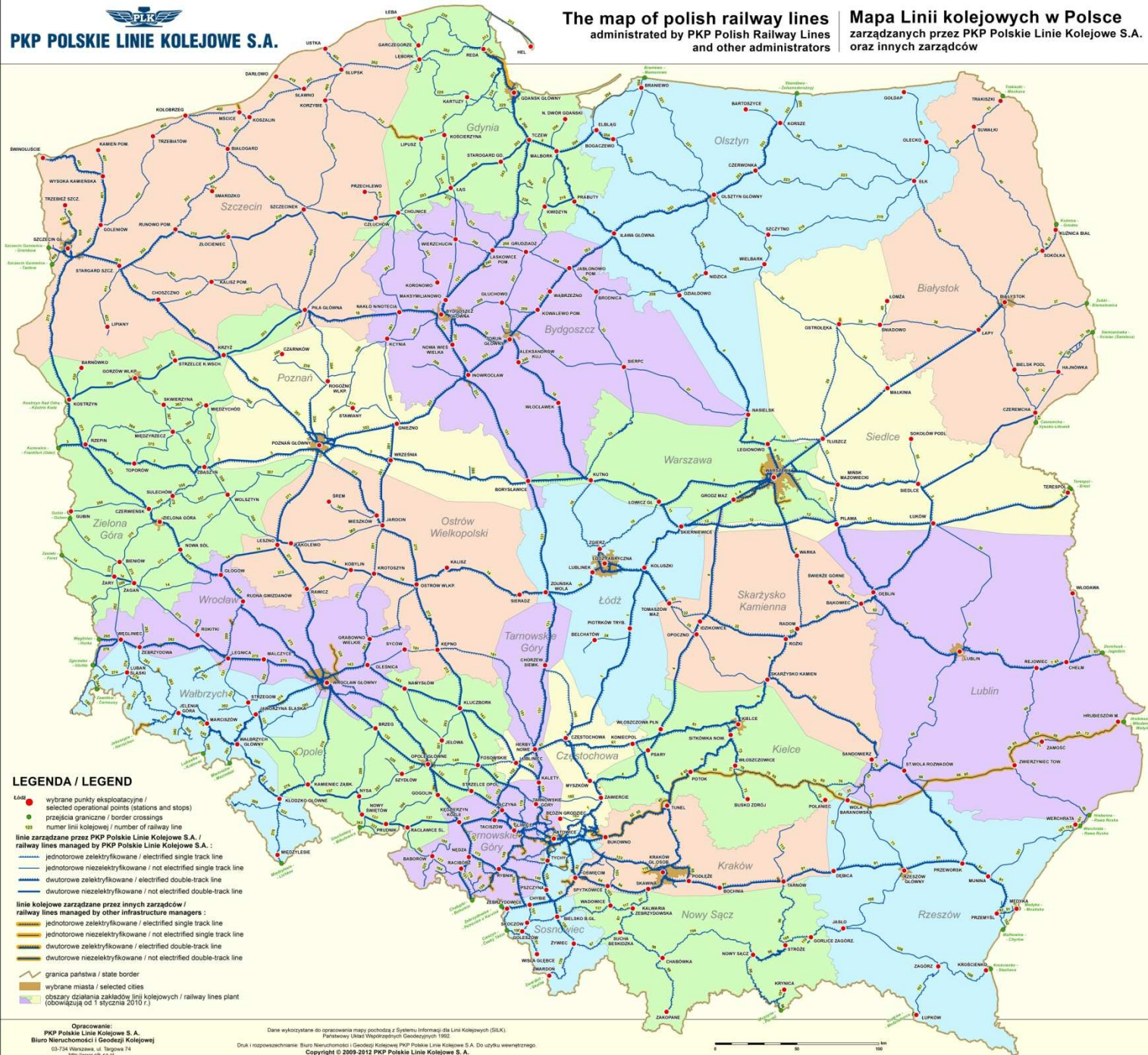


PKP POLSKIE LINIE KOLEJOWE S.A.

The map of polish railway lines
administered by PKP Polish Railway Lines
and other administrators

Mapa Linii kolejowych w Polsce
zarządzanych przez PKP Polskie Linie Kolejowe S.A.
oraz innych zarządców

E S.A.



The main fields of PKP PLK S.A. activities:

- **Making railway lines available for the operators**, on the basis of **non-discriminatory treatment**;
- Maintaining railway infrastructure in a condition **ensuring safety**;
- **Management of railway traffic** along available railway lines;
- Providing additional services connected with i.a. **capacity allocation** and traffic management on railway lines;
- Making **investments**, also co-funded by the European Union.



Sources of railway investments` financing

- **European Union funds:**
 - Operational Programme Infrastructure and Environment;
 - Regional Operational Programme – for local investment;
 - TEN-T Budget.
- **State Budget;**
- PKP Polskie Linie Kolejowe S.A. **own sources;**
- Public-Private Partnership (**PPP**) and other sources – which are possible to be used in the future for the most profitable projects e.g. high speed lines.

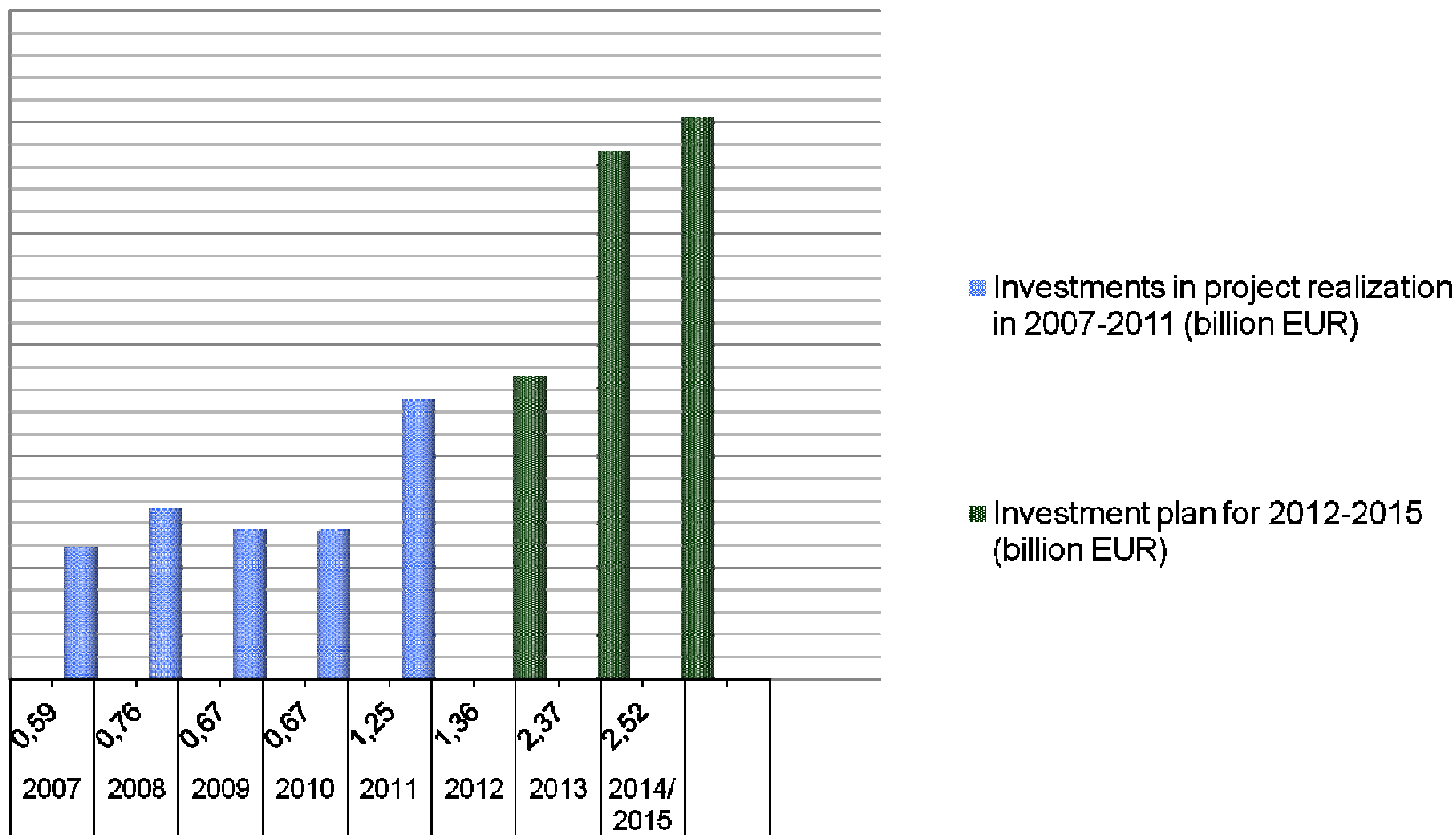
Polish railways improvement programme

- **Modernization**, generally, up to 160 kph, on main lines of TEN-T network.
- **Revitalization of lines** according to designed parameters in case, when modernization requires too large expenses while the results are unsatisfactory.
- **Construction of new lines, among them high speed lines (in long-term perspective)** in directions, where modernization won't bring satisfactory results in terms of increasing competitiveness of railways; doesn't solve problems of capacity while its costs calculated by the ratio per minute of shortening travel time are higher than in case of construction of the new line.

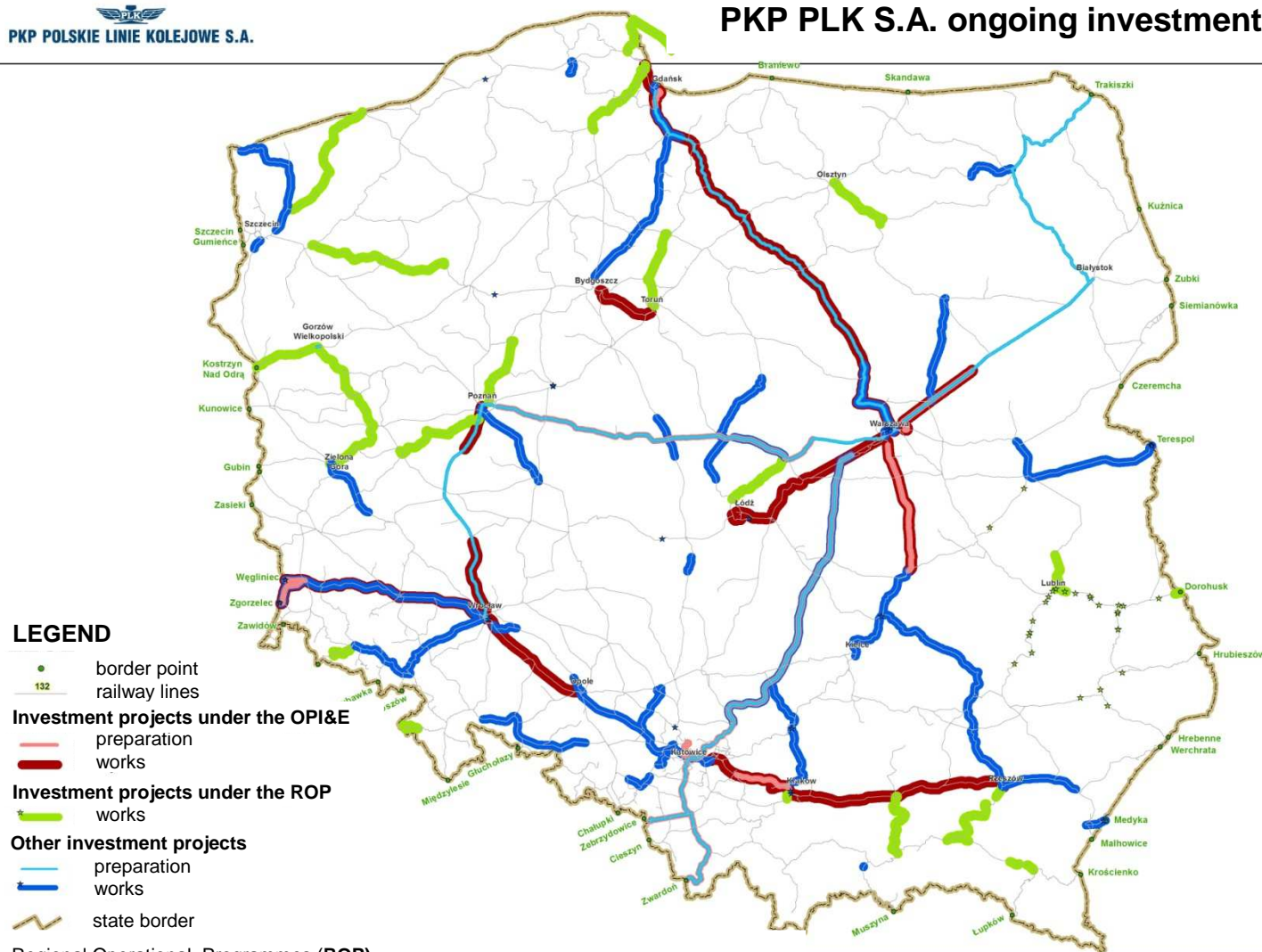
Tasks of Polish railway improvement programme:

- **Increase the speed of passenger trains** in order to improve their competitiveness with the road and air transport;
- Create the priority network for economical and **efficient freight transport**
- Achieve maximum of interoperability of Polish railways with the European network and increase rail traffic **safety**.

Investments in project realization within 2007-2011 in relation to the investment plan for 2012-2015



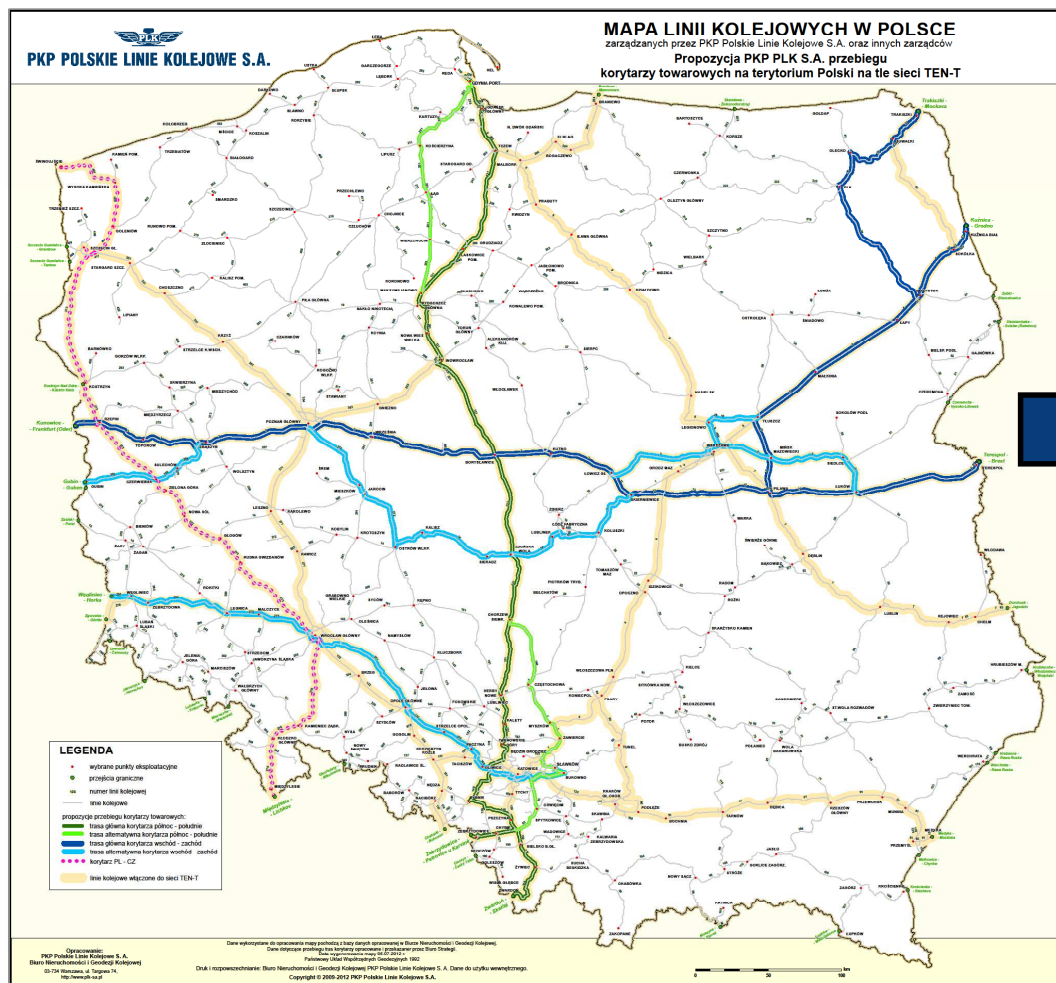
PKP PLK S.A. ongoing investment projects



Regional Operational Programmes (ROP)

Operational Programme Infrastructure and Environment for 2007-2013 (OPI&E)

Proposal of PKP PLK S.A. of network of rail freight corridor on the territory of Poland





Completed projects

MODERNIZATION OF RAILWAY LINE No.1

Warszawa – Łódź

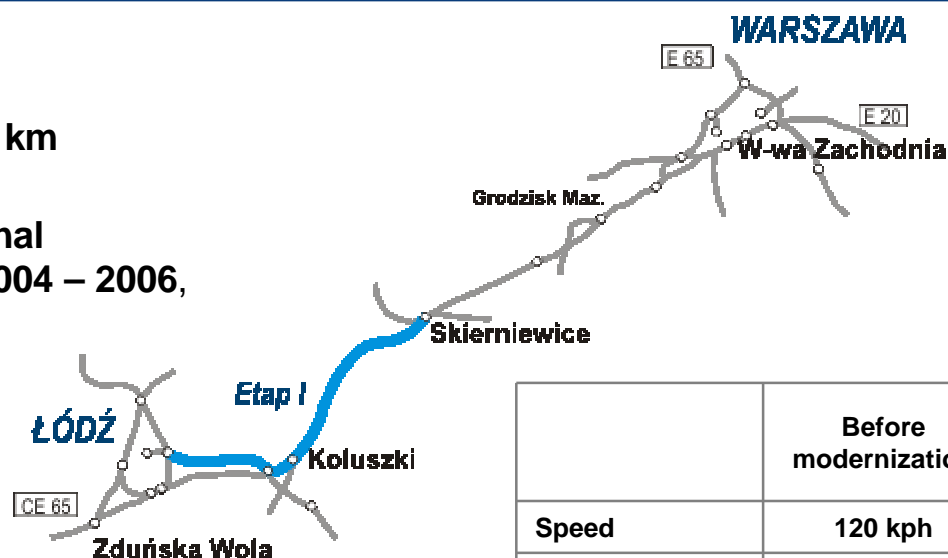
Stage I: section Skierniewice – Łódź Widzew

Project completed in 2008

Modernized section length – 62,8 km

Cost – 224 530 120 €

Co-financing – Sectoral Operational
Programme Transport for years 2004 – 2006,
state budget



	Before modernization	After modernization
Speed	120 kph	140/160 kph
Axle load	216 kN	221 kN
After modernization the first stage, travel time reduced of about 90 min		

The project covered:

- Modernization of stations: Skierniewice, Płyćwia, Rogów, passenger stops
- Modernization of tracks with adjustment of centre line distance to 4.0 m
- Power sub-stations, sectioning cabins, level crossings, bridges, viaducts
- Overpasses, culverts, underpass in Rogów

MODERNIZATION OF RAILWAY LINE No.1

Warszawa – Łódź

Stage I: section Skierniewice – Łódź Widzew



Koluszki Station

MODERNIZATION OF E 30 RAILWAY LINE

Zgorzelec – Medyka
section state border - Opole

Estimated term of completion – 2012

Section Length – 276 km

implementation cost – 684 337 349 €

Co-financing – PHARE, EBI, ISPA/FS,
TEN-T, state budget, PLK own resources



Zgorzelec – Legnica: **completed**

Szczedrzykowice – Legnica: **completed**

Malczyce – Szczedrzykowice: **completed**

Środa Śląska – Wrocław: **completed**

Wrocław – Opole: **completed**

Malczyce – Środa Śląska: **completed**

Bridge in Bolesławiec: **completed**

Miękinia Station: **completed**

Szczedrzykowice Station: **completed**

Brzeg Station: **completed**

Oława Station: **completed**

MODERNISATION OF E 30 RAILWAY LINE

**Zgorzelec – Medyka
section state border - Opole**



Noice barrier at Dąbrowa Niemodlińska Station



Railway Traffic Management Centre in st. Bolesławiec



Miękinia Station



Railway bridge in Bolesławiec



Planned investments (examples)



MODERNIZATION OF RAILWAY LINE No. 8 section Warszawa Okęcie – Radom

MODERNIZATION OF RAILWAY LINE No 8,

section Warszawa Okęcie – Radom

area of Railway Traffic Management Centre Warszawa Okęcie and Radom

Project scope :

- modernization
from 11,800 km to 104,250 km;
- 7 stations;
- 92,45 km railway lines.

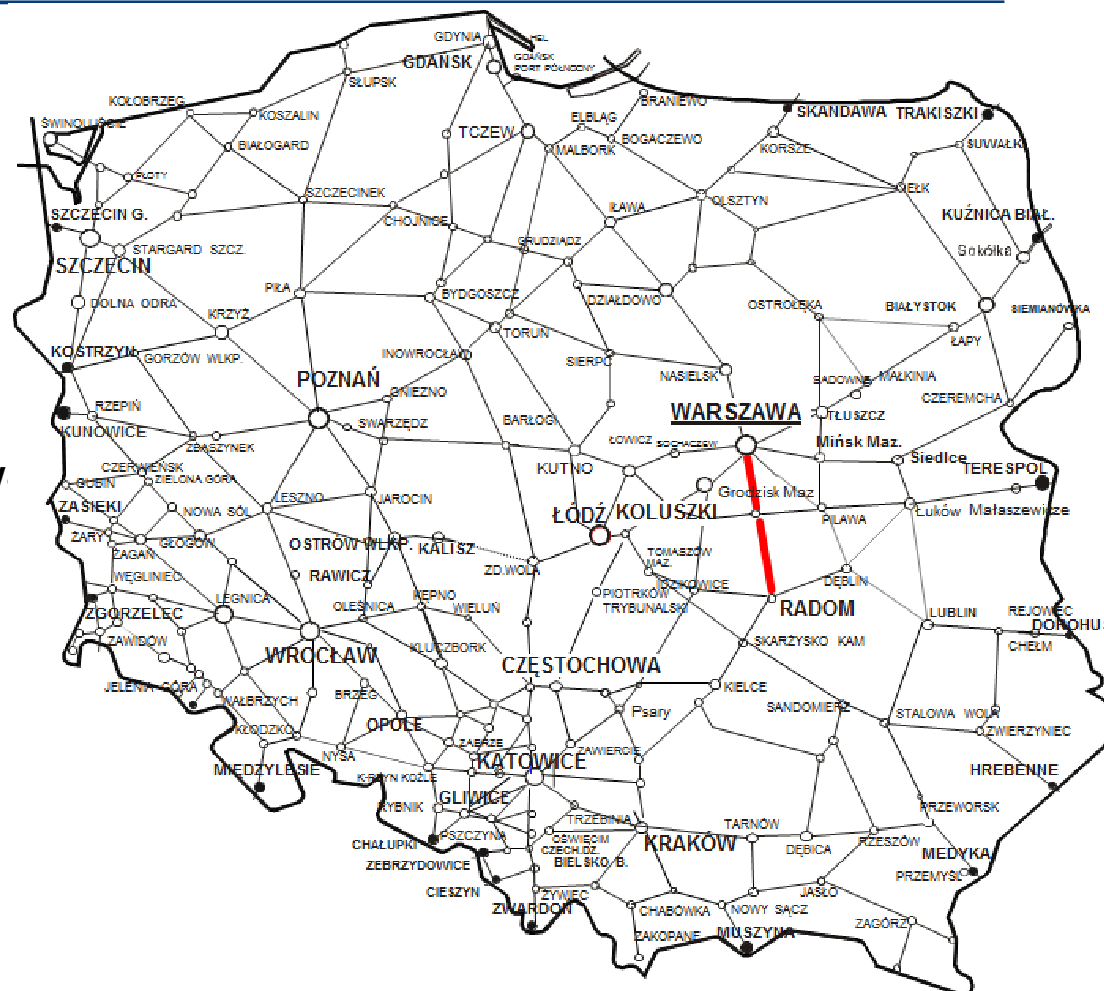
Total project value – 537 807 229 €

Railway Traffic Management Centre Warszaw Okęcie:

- 3 stations (Warszawa Okęcie, Piaseczno, Czachówek Płd.);
- 27,00 km railway lines.

Railway Traffic Management Centre Radom:

- 4 stations (Chynów, Warka, Dobieszyn, Radom);
- including second track on a single track section between Warka and Radom (45 km);
- 65,45 km railway lines.



MODERNIZATION OF RAILWAY LINE No. 8,
section Warszawa Okęcie – Radom
area of Railway Traffic Management Centre Warszawa Okęcie and Radom

Expected date of invitation to tender	
Execution of works for the area of Railway Traffic Management Centre Warszawa Okęcie	IV q. of 2012
Execution of works for the area of Railway Traffic Management Centre Radom	IV q. of 2012
Execution of works for Radom Station	II q. of 2012





REVITALIZATION OF RAILWAY LINE No. 1 section Koluszki – Częstochowa

REVITALIZATION OF RAILWAY LINE No 1

section Koluszki – Częstochowa

Project scope :

- revitalization from 104,028 km to 229, 245 km;
- 13 stations;
- 124 km of railway lines;
- travel time reduced of about 33 minutes.

Project value – 120 481 928 €



Date of invitation to tender	02.07.2012
Expected time of works	IV q. of 2012 – IV q. of 2014



**Implementation of ERTMS/ETCS level 1 on E20/CE20
section Kunowice – Warszawa
including nodes in Poznań and Warszawa**

The European Rail Traffic Management System (ERTMS)

The European Rail Traffic Management System (ERTMS), as a universal and EU-compatible signalling system, is an innovative technical solution designed to deal with a growing transport demand and also to improve the capacity on railway lines. The deployment of ERTMS will enable the creation of seamless European railway system and increase European railway competitiveness.

ERTMS has two basic components:

- ETCS, the European Train Control System, an automatic train protection system (ATP) to replace the existing national ATP-systems;
- GSM-R, a radio system for providing voice and data communication between the track and the train, based on standard GSM using frequencies specifically reserved for rail application with certain specific and advanced functions.



Implementation of ERTMS/ETCS level 1 on E20/CE20 section Kunowice – Warszawa including nodes in Poznań and Warszawa

**The aim of implementation of ERTMS/ETCS level 1 on E20/CE20 main line,
section Kunowice – Warszawa**

- adjustment of 522 km railway line E20/CE20, section Kunowice – Warszawa Centralna (including nodes in Poznań and Warszawa) to standards of Trans-European Transport Network
- increase in railway traffic safety;
- implementation of Control and Command System;
- reduction of train delays and improvement of railway lines capacity;
- improving rail safety.

Planned tender start: IV q. of 2012 / I q. of 2013

Planned completion: IV q. of 2014

Implementation of ERTMS/ETCS level 1 on E20/CE20 section Kunowice – Warszawa including nodes in Poznań and Warszawa

Progress of the project:

- tender documentation – in preparation
- expected date of implementation:
December 2014
- project value: 31 475 193 €
- total amount of the TEN-T co-financing:
50% (15 429 000 €)

Scope of the project:

- length: **522 km**
- design, installation, construction and putting in service ERTMS/ETCS level 1 (infill) on E20/CE20 main line, section Kunowice – Warszawa including nodes in Poznań and Warszawa





RAILWAY LINE C-E 59 **section Wrocław – Kostrzyn – Szczecin**

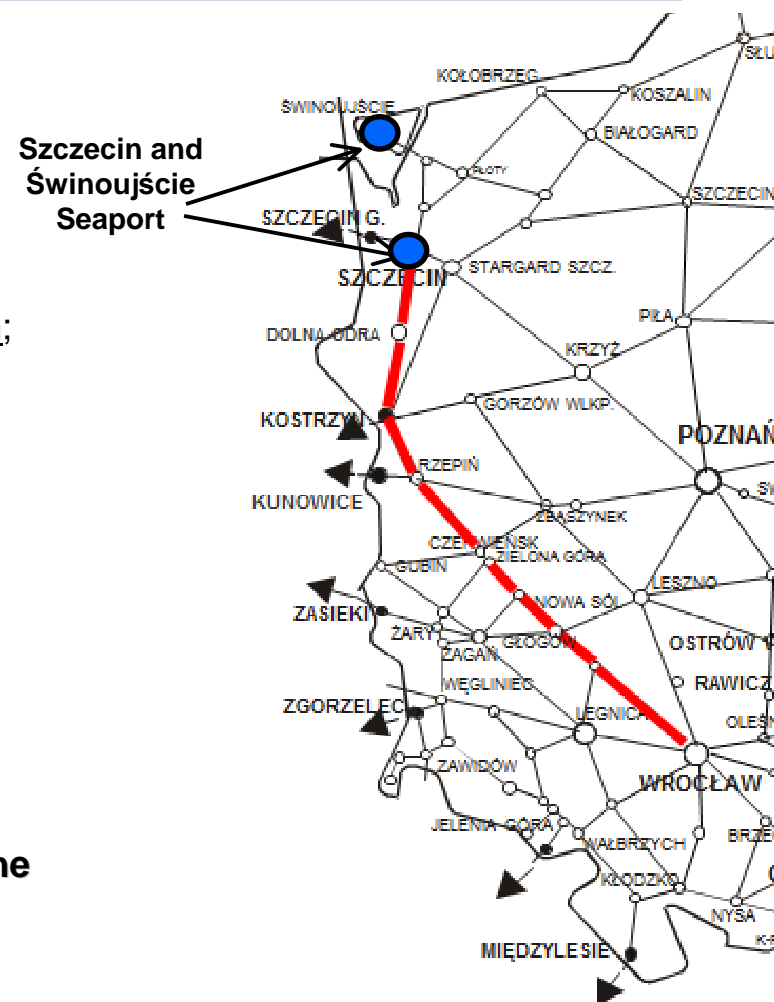
RAILWAY LINE C-E 59

section Wrocław – Kostrzyn – Szczecin

**The most important data on railway line C-E 59
section Wrocław – Kostrzyn – Szczecin:**

- **Total length:** 355,590 km railway lines;
- Modernization or revitalization from 0,306 km to 355,904 km;
- 46 stations;
- 355,590 km railway lines,
- **Railway line is fully electrified;**
- **Single-track**
 - from 0,306 km to 2,200 km;
 - from 348,721 km to 350,355 km;
- **Double-track**
 - from 2,200 km to 348,721 km;
 - from 350.355 km to 355.904 km.

Modernization or revitalization line C-E 59 will increase the accessibility to Szczecin and Świnoujście Seaport





MODERNIZATION OF RAILWAY LINE C-E 59 section Wrocław – Kostrzyn – Szczecin (1st Option)

MODERNIZATION OF RAILWAY LINE C-E 59

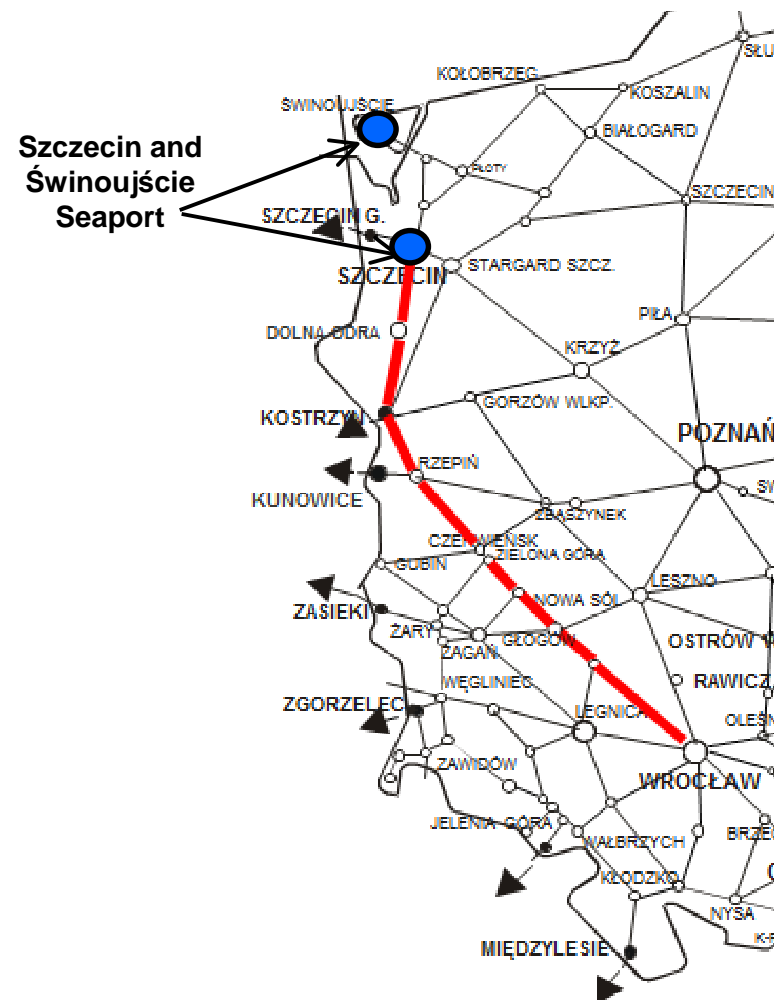
section Wrocław – Kostrzyn – Szczecin



Project scope :

- modernization
from 0,306 km to 355,904 km;
- 46 stations;
- 355,590 km railway lines,

Project value – 2 700 000 000 €



MODERNIZATION OF RAILWAY LINE C-E 59

section Wrocław – Kostrzyn – Szczecin

Project scope :

Construction, reconstruction (modernization), renovation of the railway infrastructure and other infrastructure elements like:

- **track layout** (replacement of track surface) and adaptation to the maximum speed of 120 - 140 kph;
- bridges;
- traffic control devices and **Railway Traffic Management Centres**;
- electric engineering and traction network devices;
- construction of two-level junctions;
- **engineering facilities**;
- implementation of **ERTMS / ETCS**,
- buildings and structures related to the railway traffic.



REVITALIZATION OF RAILWAY LINE C-E 59 section Wrocław – Kostrzyn – Szczecin (2nd Option)

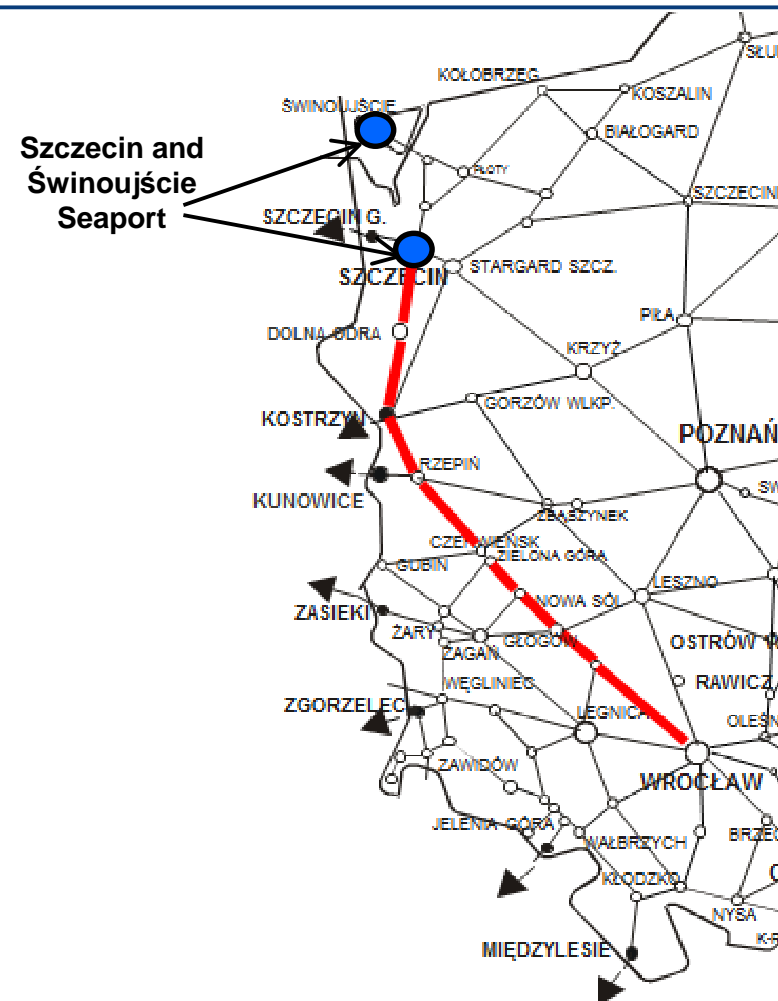
REVITALIZATION OF RAILWAY LINE C-E 59

section Wrocław – Kostrzyn – Szczecin

Project scope :

- revitalization
from 0,306 km to 355,904 km;
- 46 stations;
- 355,590 km railway lines.

Project value – 267 500 000 €



REVITALIZATION OF RAILWAY LINE C-E 59

section Wrocław – Kostrzyn – Szczecin

Project scope :

Revitalization of the railway infrastructure and other infrastructure elements like:

- **track layout** (replacement of track surface) and adaptation to the maximum speed of 100 - 120 kph;
- **junctions**;
- reconstruction of platforms;
- electric engineering and traction network devices;
- changing road surface;
- **engineering facilities**;
- **substructure** of track and drainage system;
- buildings and structures related to railway traffic.



Tender Procedures

Basic regulations for construction, modernization, repair and maintenance of railway infrastructure

➤ **The European Union Acts:**

- **Technical specifications for interoperability for conventional rail system.**

<http://eur-lex.europa.eu/en/index.htm> (Available in English)

➤ **Polish Acts:**

- **Transport Act (Journal of Law of 2007 , No. 16, pos. 942 with amendments);**
- **Public Procurement Law (Journal of Law of 2009, No. 19, pos. 100 with amendments);**
- **Construction Act (Journal of Law of 2010, No. 243, pos. 1623).**

<http://www.dziennikiurzedowe.gov.pl/> (Available in Polish only)

➤ **Regulations of PKP PLK S.A. (internal procedures)**

Railway infrastructure modernization and revitalization investments carried out on a transport network described in Decision 661/2010/EC are realised on the basis of regulations from Directive 2007/58/EC (Interoperability Directive).

PKP PLK S.A. internal procedures

1. Tendering Documentation Preparation
2. Tendering Procedures Preparation
3. Announcement of proceeding
4. Tendering Committee Works
5. Appeal-Complaint Stage
6. Public Procurement Office Control Stage (PPO)
submission of the complete documentation
Concerning issues of value:
 - construction works ≥ 20 mln EUR
 - services and supply ≥ 10 mln EURConcerning projects co-financed from EU funds.
7. Ministry of Transport, Construction and Maritime Economy control stage concerning projects co-financed from European Union Structural Funds (SF) and TEN-T
8. Stage before agreement signature verification due to formal and legal aspects and ensuring appropriate agreement implementation, preparation of the agreement signature due to public procurement.
9. Conditions of agreement signature

Public – Private Partnership (PPP)- conditions for railway sector

Legal basis:

- **Public Procurement Law (Journal of Law of 2009, No. 19, pos. 100 with amendments)**
- **Act on concession for construction works (Journal of Law of 2009, No. 19, pos. 101 with amendments)**

Undertakings covering following activities may be realized in PPP model:

- **construction or repair of a structure;**
- **providing services;**
- **performance of the work;**
- **other services.**

Regulations on PPP indicate that all above elements should be always connected with the maintenance or management of assets which is used to realization of PPP undertaking.

Principles of selection described in above regulations are based on competitive modes

Summary

- Investments related to extension of scope and restructuring of Polish railway network in the nearest future will be more and more intensive;
- Total amount of measures allocated to railway investments for 2013 - 2015 will be 5 billions EUR and further 5 billions EUR in years 2015 - 2020;
- Realization of these tasks will be a great challenge for construction companies;
- We count on involvement of Chinese companies in realization of those tasks. Experience and technological progress in Chinese economy will be meaningful contribution to Polish investment improvement.

Railway of the new technologies



PKP POLSKIE LINIE KOLEJOWE S.A.

Thank you for your attention!

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