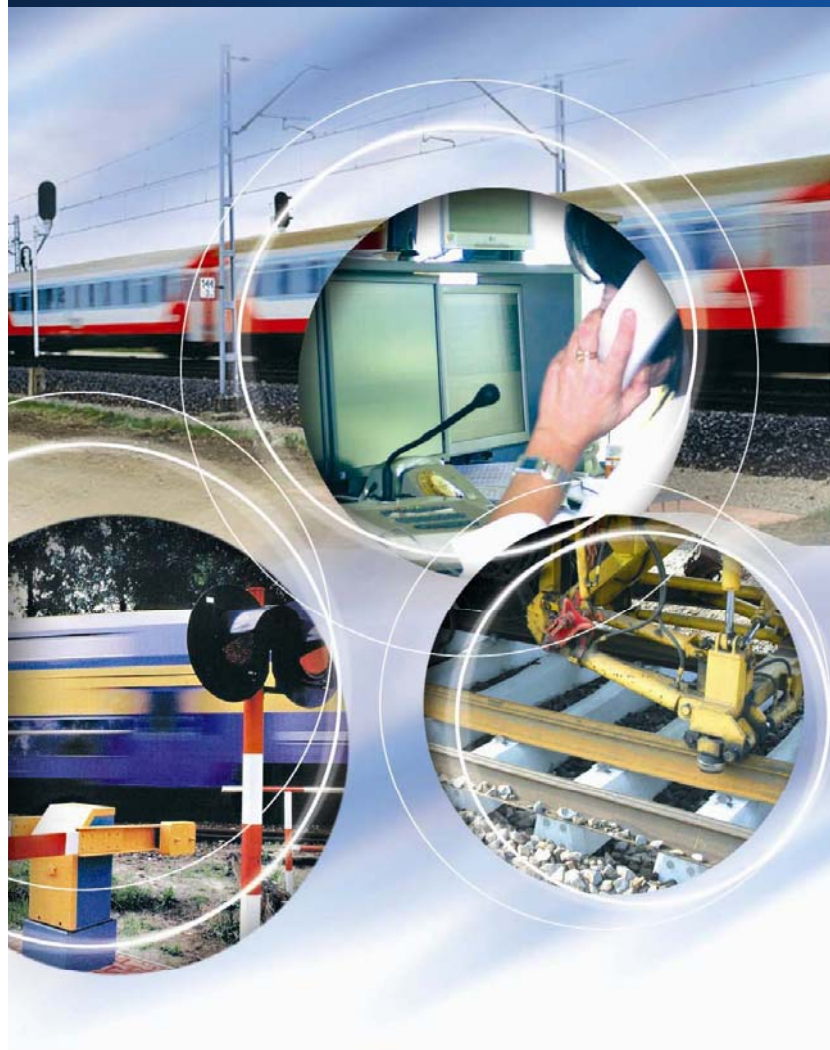




**PKP POLSKIE LINIE KOLEJOWE S.A.**



# **ERTMS development in Poland**

**April 2012**





- **ERTMS projects ongoing in Poland**
- ERTMS projects planned in Poland
- ERTMS in Poland foreseen for 2015



# ERTMS/ETCS level 1 on CMK line Grodzisk Mazowiecki – Zawiercie 1/3

## Scope of contract:

- Design and build of ETCS level 1
- interfaces to signalling system  
(interlocking, block, LX protection)
- Tests
- Certification and commissioning





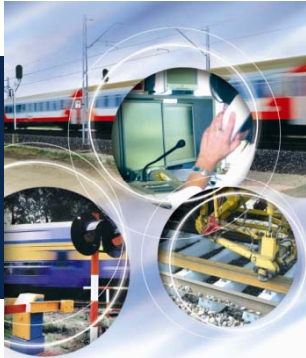
# ERTMS/ETCS level 1 on CMK line Grodzisk Mazowiecki – Zawiercie 2/3

## Why ERTMS/ETCS level 1?

- $v > 160$  km/h requires cab signalling system (ERTMS/ETCS is the only legacy one in EC)
- keeping existing signalling (interlockings and block systems) excludes level 2

In case of this line it is important to enable Railway Undertakings to use modern rolling stock as soon as possible and to operate trains at speed over 160 km/h.



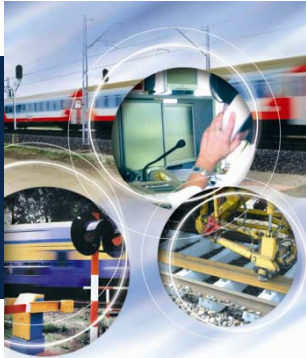


# ERTMS/ETCS level 1 on CMK line Grodzisk Mazowiecki – Zawiercie 3/3

## ERTMS/ETCS on CMK line cooperation between RU and IM:

- PKP PLK S.A. will ensure ERTMS/ETCS Level 1 track-side equipment for PKP Intercity S.A. vehicles equipped with ETCS on-board for final tests and commissioning
- PKP Intercity S.A. will ensure vehicles equipped with ETCS on-board unit for final test and commissioning of ERTMS/ETCS Level 1 track-side subsystem installed on CMK line



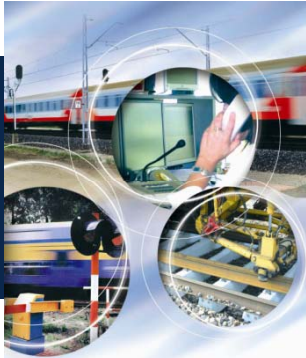


# ERTMS level 2 on Corridor F Legnica – Węgliniec – Bielawa Dolna 1/3

## Scope of contract:

- **Part A – ERTMS/ETCS level 2 track-side equipment:**  
design, installation and commissioning
- **Part B – ERTMS/ETCS and ERTMS/GSM-R on-board equipment:**  
design, installation and commissioning  
ETCS level 2 and GSM-R and external STM
- **Part C – ERTMS/GSM-R fixed and mobile terminals:**  
design, delivery and installation



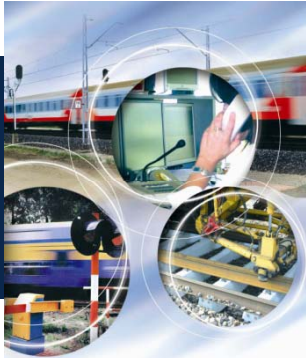


# ERTMS level 2 on Corridor F Legnica – Węgliniec – Bielawa Dolna 2/3

**Supplier has completed the pre-work documents which has been accepted:**

- **Inventory of existing state together with the acquisition of the current technical documentation to the extent necessary for the development of projects**
- **The concept of location and installation of the ERTMS / ETCS level 2 in the line of the pilot / preliminary draft of the installation**
- **Proposal of operation rules under ERTMS/ETCS level 2**
- **Operational scenarios**
- **Test cases**





# ERTMS level 2 on Corridor F Legnica – Węgliniec – Bielawa Dolna 3/3

## Works to be done:

- design ETCS and GSM-R on-board equipment;
- technical documentation for construction of the on-board equipment for particular types of locos (EU07/EP07, ET22, EN57 and SU46) with the construction and commissioning of on-board equipment for 8 vehicles;
- design and prototype external STM;
- constructing documentation and installation of external STM module on four vehicles.







# ERTMS/GSM-R on Corridor F Legnica – Węglińiec – Bielawa Dolna 1/2

## Scope of contract:

- **two Mobile Switching Centres MSC (Warsaw, Poznan)**  
  
**voice and data communication (CSD, GPRS) and SMS services;**
- **Base Station Subsystem BSS**  
**Base Station Controller BSC (Wroclaw) and**  
**Base Transceiver Stations BTS's on 84 kms**

**The main scope of the BSS is to provide radio coverage required for ETCS level 2 (voice and data communication).**





# ERTMS/GSM-R on Corridor F Legnica – Węglińiec – Bielawa Dolna 2/2

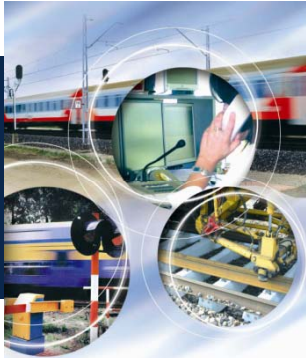
**Project will be implemented in three stages:**

- **Stage 1 – design, deliver, build, installation of ERTMS/GSM-R network on E 30 railway line and training of PLK personnel**
- **Stage 2 – GSM-R functional tests**
- **Stage 3 – ERTMS functional tests operation and maintenance testing interface GSM-R/ETCS**





- ERTMS projects ongoing in Poland
- **ERTMS projects planned in Poland**
- ERTMS in Poland foreseen for 2015



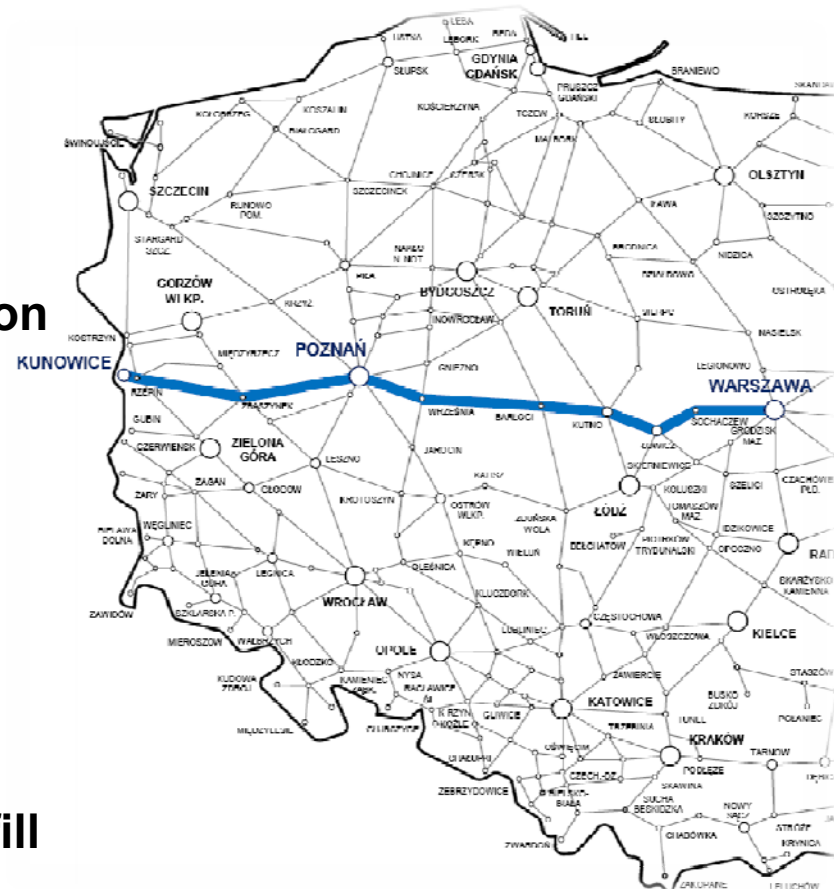
# ERTMS/ETCS on Corridor F Kunowice – Poznań – Warszawa

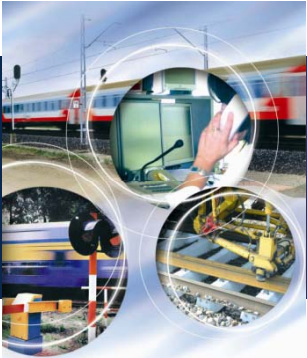
## Progress of the project:

- TEN-T co-financing ensured
- tender documentation – in preparation
- expected date of implementation:  
December 2014

## Scope of the project:

- design, installation, build and put in service ERTMS/ETCS level 1 with infill





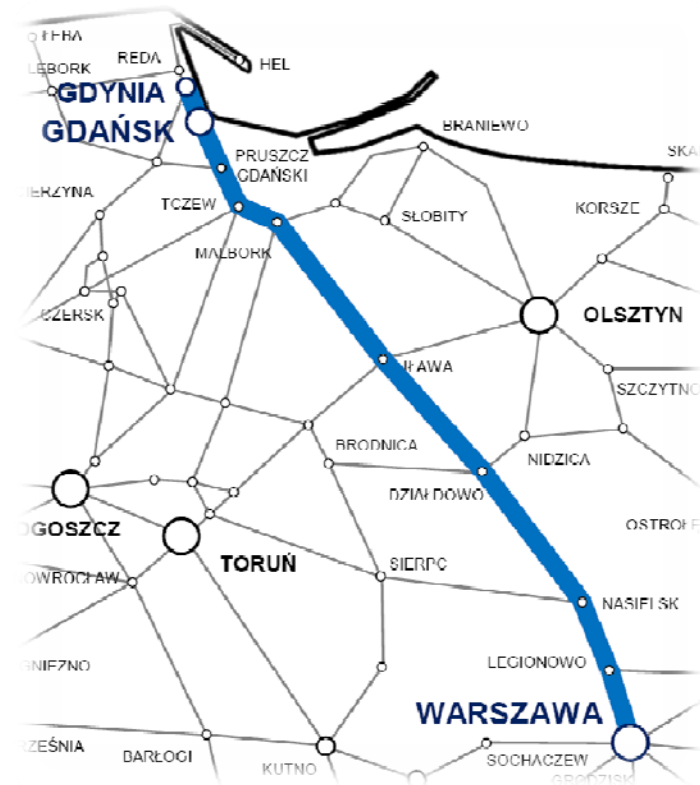
# ERTMS/ETCS and ERTMS/GSM-R Warszawa – Gdańsk – Gdynia

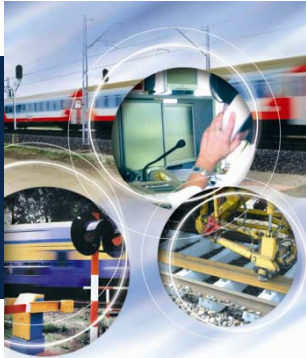
## Progress of the project:

- tender announcement: 20.12.2011
- expected implementation: June 2015

## Scope of the project:

- design, build and put in service remote control systems in 8 Local Control Centres
- design, build and put in service ERTMS/ETCS level 2
- design, build and put in service ERTMS/GSM-R





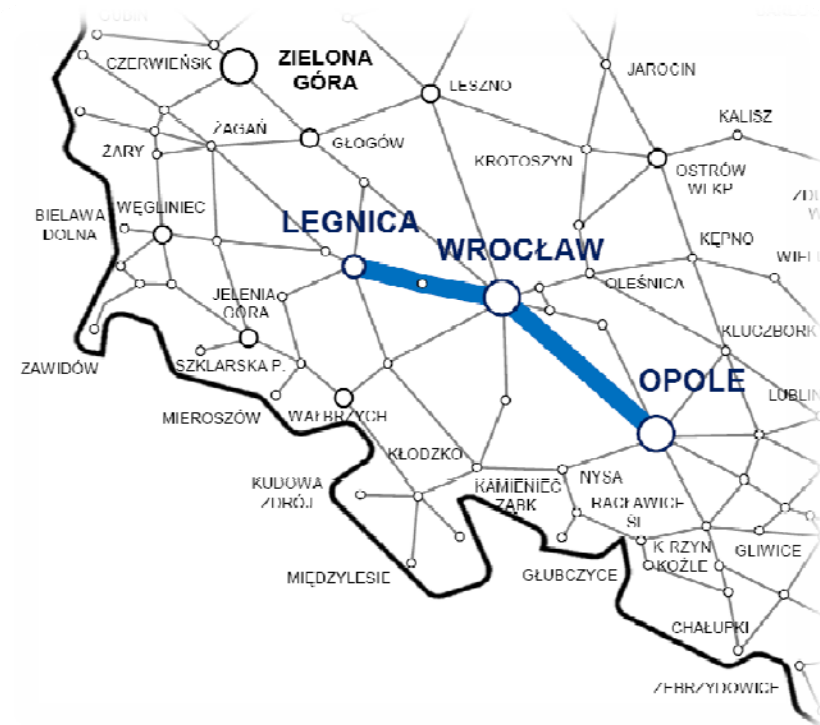
# ERTMS on Corridor F extension Legnica – Wrocław – Opole

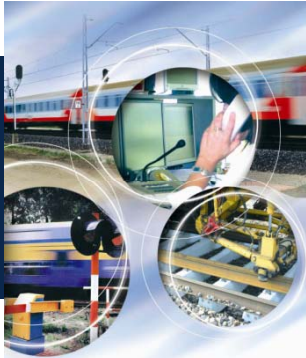
## Progress of the project:

- tender announcement: 06.03.2012
- expected implementation: 2013-2015

## Scope of the project:

- design, installation, build and put in service ERTMS/ETCS level 2
- design, installation, build and put in service GSM-R





# ERTMS/ETCS and ERTMS/GSM-R Warszawa – Łódź

## Progress of the project:

- tender documentation – in preparation
- application for funding – in preparation
- expected implementation: 2012-2014

## Scope of the project:

- design, build and put in service ERTMS/ETCS level 2 with RBCs located in Local Control Centres Grodzisk Mazowiecki, Skierniewice, Koluszki
- design, build and put in service ERTMS/GSM-R



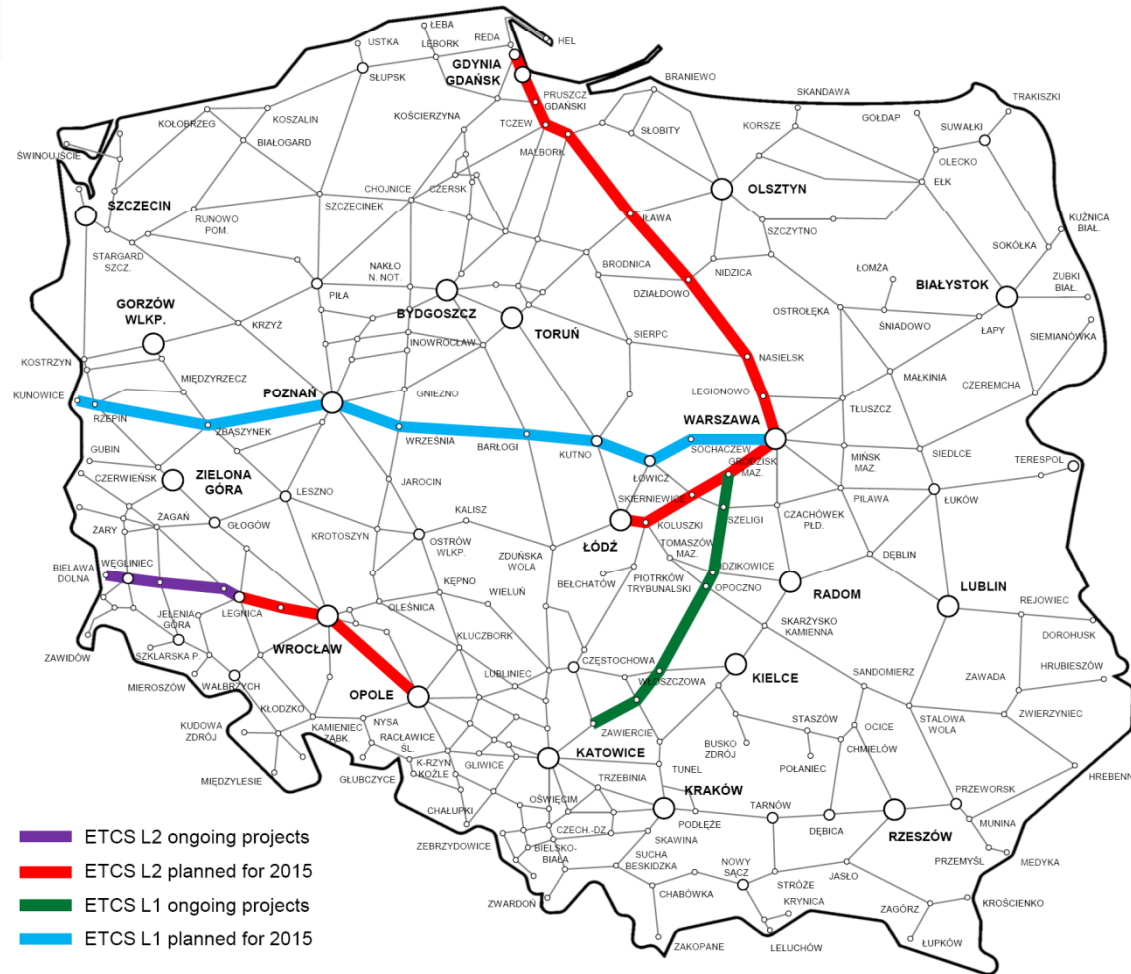


- ERTMS projects ongoing in Poland
- ERTMS projects planned in Poland
- **ERTMS in Poland foreseen for 2015**



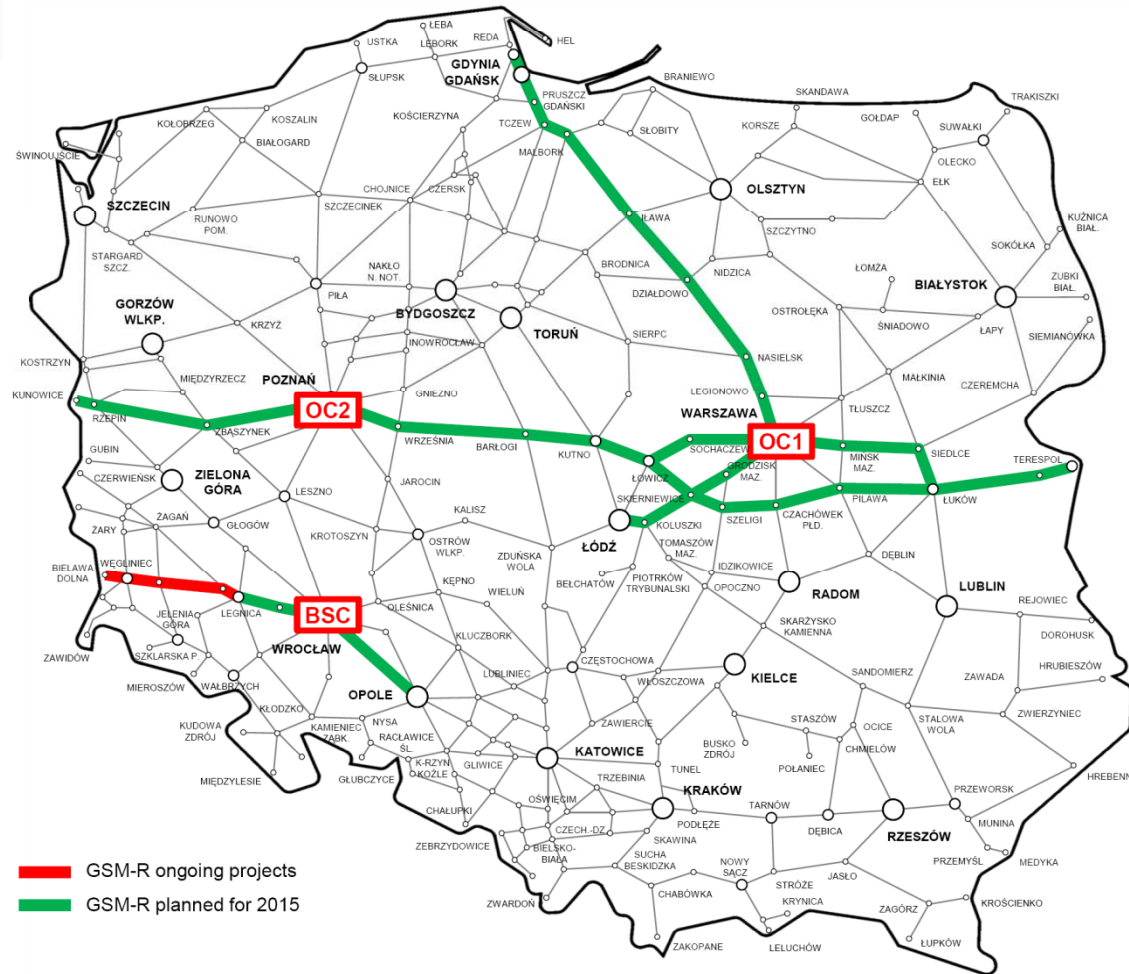


# ERTMS/ETCS ongoing and planned projects





# ERTMS/GSM-R ongoing and planned projects



— GSM-R ongoing projects  
— GSM-R planned for 2015





**PKP POLSKIE LINIE KOLEJOWE S.A.**



**THANK YOU  
FOR ATTENTION**

