



**IT/OT in Rail Transport
2025**

VII Scientific and Technological Conference

IT/OT in Rail Transport 2025

Warsaw, April 14-16, 2025

conference materials



**Polish Association of Transport
Engineers & Technicians**



HONORARY PATRONAGE

Ministry of Infrastructure
Marshal of the Mazowieckie Voivodeship
Office of Rail Transport (UTK)
Centre for EU Transport Projects (CUPT)*
PKP Polskie Koleje Państwowe SA*
PKP Polskie Linie Kolejowe SA

SUBSTANTIVE PATRONAGE

SCIENTIFIC AND PROGRAMME BOARD

Ph.D. Jacek Paś

Head of the Scientific and Programme Board
Polish Association of Transport Engineers and Technicians National Board (SITK RP)
President

Ph.D. Ignacy Góra

Polish Office of Rail Transport (UTK)
President

prof. D.Sc. Ph.D. Andrzej Szarata

Cracow University of Technology
JM Rector of the Cracow University of Technology

prof. D.Sc. Ph.D. Marianna Jacyna

Warsaw University of Technology, Faculty of Transport
Dean of WUT Faculty of Transport

D.Sc. Ph.D. Andrzej Massel

Railway Research Institute (IK)
Director of the Railway Research Institute

D.Sc. Ph.D. Marek Pawlik, prof. IK

Railway Research Institute (IK)
Vice-Director of Railway Research Institute, Head of Interoperability Division,

D.Sc. Ph.D. Andrzej Toruń, prof. IK

Railway Research Institute, Railway Traffic Control and Telecom Department
Head of the Department

Ph.D. Marek Sumiła

Railway Research Institute, Signalling and Telecommunication Laboratory
Head of the Laboratory

Ph.D. Maciej Kaczorek

Polish Association of Transport Engineers and Technicians National Board (SITK RP)
Head of the National Railway Committee SITK RP

Ph.D. Piotr Wulgaris

Polish Association of Transport Engineers and Technicians National Board (SITK RP)
President of SITK RP Branch Gdansk

Ph.D. Mariusz Buława

Polish Association of Transport Engineers and Technicians National Board (SITK RP)
Head of the National Cybersecurity Committee SITK RP

Bartosz Antkowiak

Polish Association of Transport Engineers and Technicians National Board (SITK RP)
SITK RP Branch Bydgoszcz, High Speed Railway Committee SITK RP

ORGANIZING COMMITTEE _____

Ph.D. Wawrzyniec Wychowański

Head of the Organizing Committee
Polish Association of Transport Engineers and Technicians National Board
General Secretary

Dorota Adamska

Railway Research Institute
Deputy Head of the Management office

Paweł Gradowski

Railway Research Institute
Head of the SITK association in Railway Research Institute

Roman Góralski

Polish Association of Transport Engineers and Technicians National Board
Head of the Communications Department

Ewa Wojdyńska

Polish Association of Transport Engineers and Technicians National Board
ITOT2025 Project Manager

Hanna Szary

Polish Association of Transport Engineers and Technicians National Board
Head of the Conference and Experimental Development Department

Katarzyna Gawlik-Tarnowska

Polish Association of Transport Engineers and Technicians
SITK RP Warsaw Branch, Head of National information and promotion committee

SITK RP

Katarzyna Kucharek

Polish Association of Transport Engineers and Technicians

SITK RP Warsaw Branch, National information and promotion committee SITK RP

Jacek Poniewierski

Polish Association of Transport Engineers and Technicians

SITK RP Warsaw Branch, National information and promotion committee SITK RP

Wiesława Barańska

Polish Association of Transport Engineers and Technicians

SITK RP Warsaw Branch, Railway National Committee SITK RP

MAIN CONFERENCE OBJECTIVES

Crucial topics of the IT/OT in Rail Transport 2025 conference:

- Digital railway systems;
- Train traffic control and train traffic management process automation;
- Cybersecurity of the railway system;
- Agglomeration, Urban and Light Rail Transport systems,
- Railway Infrastructure;
- Infrastruktura systemu kolejowego;
- Rolling stock;
- Train to ground transmission system
-

The main objectives of the ITOT 2025 conference Warsaw are listed below:

- Knowledge building about the relationship between IT systems and OT systems for both infrastructure and rolling stock;
- Discussion of the latest solutions and presentation of current trends in the field of automation of the control and traffic management process of rail vehicles;
- Description of the risk for digital systems dedicated to rail transport, which is generated by cyberspace;
- Presentation of potential and discussion of implemented actions to ensure railway cybersecurity;
- Presentation of development directions in the area of design, construction, implementation and operation of digital systems intended for the railway industry;
- Construction of a platform for the presentation of technical knowledge and experience in the implementation of IT systems on the railway and the technical, organizational and legal conditions of this process;
- Discussion of the elements of a unified strategy for the development of railway transport in Poland, with particular emphasis on the systemic connection of regional transport (intercity) with agglomeration rail transport in a holistic approach (End to End services from the passenger's perspective);
- Organization of space for the exchange of technical knowledge and experience between domestic and foreign companies and the scientific community;

- Tightening cooperation between science and industry, understood as supporting the commercialization of scientific works and exchange of views on the education of engineering staff due to the dynamic development of rail transport in Poland.

CONFERENCE MATERIALS

Presentations should be sent to the organizers by 07.04.2025 EOD

PARTICIPATION CONDITIONS

The condition for participation in the conference is to send a completed participation card and a payment to the below presented bank account of the Polish Association of Transport Engineers and Technicians National Board (SITK RP Zarząd Krajowy).

**Bank account number for participation payments:
PL 89 1160 2202 0000 0005 8671 8834**

The cost of participation in the conference includes all costs of the participant's participation, including participation in the gala and friendly dinner and participation in the technical trip on the third day of the conference.

Conference participation cost:

3000,00 PLN NET + 23% VAT	whole conference participation, with self-accommodation
1800,00 PLN NET + 23% VAT	self-accommodation and participation in one selected day of the conference with the diner included in

Reduced conference participation cost dedicated to the:

- Members of Polish Association of Transport Engineers and Technicians;
- Scientific and teaching staff from specialized universities;
- Students from specialized universities;

is agreed at the level of:

2000,00 PLN NET + 23% VAT	whole conference participation, with self-accommodation
1300,00 PLN NET + 23% VAT	self-accommodation and participation in one selected day of the conference with the diner included in

Please highlight Your intention to take part in a technical trip together with the Conference participation card.

Any resignation from participation shall be sent to the following e-mail address: itot2025@sitkrp.org.pl by the 04.04.2025 r.

If You do not cancel your participation within the given deadline, no refund of participation costs will be possible.

INFORMATION / HELPDESK

Polish Association of Transport Engineers and Technicians National Board

ul. Czackiego 3/5
00-043 Warszawa
e-mail: itot2025@sitkrp.org.pl

Ewa Wojdyńska / HSR PL 2024 Project Manager
Mobile: + 48 692 556 037

EN Language Conference Contact: SITK RP National Board

e-mail: itot2025@sitkrp.org.pl

Wawrzyniec Wychowański
Mobile: + 48 505 787 221

HINT:

The entire conference will be simultaneously translated into English and Polish

GENERAL CONFERENCE SCHEDULE

14.04.2025 MONDAY

Location: Warszawski Dom Technika NOT
 Sala A, III piętro
 ul. Czackiego 3/5, 00-043 WARSAW, PL

CONFERENCE GUEST REGISTRATION **[90 min]**
10:00 – 11:30

PLENARY SESSION **[90 min]**
11:30 – 13:00

11:30 – 11:35 Conference Guest Welcome
 [05 min]

11:35 – 11:45 Conference opening [10 min]

Ph.D. Jacek Paś

Head of the Scientific and Programme Board,
Polish Association of Transport Engineers and Technicians National Board
(SITK RP)
President

D.Sc. Ph.D. Andrzej Massel

Railway Research Institute (IK)
Director of the Railway Research Institute

11:45 – 12:15 Conference opening speech [45 min]

Ph.D. Ignacy Góra

Polish Office of Rail Transport (UTK)
President

Piotr Malepszak

Ministry of Infrastructure
Undersecretary of State at the Ministry of Infrastructure of Poland

Ph.D. Alan Beroud

International union of railways (UIC)
UIC Chairman dr inż. Alan Beroud
Polskie Koleje Państwowe SA (PKP SA)
President of the Polskie Koleje Państwowe S.A

The Impact of Quantum Technologies on the Security of Critical Infrastructure

gen.bryg. Włodzimirz Nowak
Military University of Technology (WAT)
Institute of Optoelectronics

12:15 – 13:00 Honorary Guest, Co-organizer, Representatives and
Conference Partners welcome speeches [30 min]

DISCUSSION PANEL 01 [90 min]
13:00 – 14:30

RAIL TRANSPORT SYSTEMS DEVELOPMENT IN POLAND
AGGLOMERATION RAIL TRANSPORT IN THE POLISH RAILWAY SYSTEM
MOBILITY AND AUTONOMOUS VEHICLES,
CYBERSECURITY

Moderator 1: **Ph.D.. Jacek Paś**
Head of the Scientific and Programme Board,
Polish Association of Transport Engineers and Technicians
National Board (SITK RP)
President

Moderator 2: **Ph.D. Wawrzyniec Wychowański**
Polish Association of Transport Engineers and Technicians
National Board (SITK RP)
General Secretary

13:00 – 13:15 Discussion Panel opening speech 01 [15 min]
Katarzyna Strzegowska
Public Transport Authority in Warsaw (ZTM Warszawa)
Director

13:15 – 13:30 Discussion Panel opening speech 02 [15 min]
prof. D.Sc. Ph.D. Andrzej Szarata
Cracow University of Technology
JM Rector of the Cracow University of Technology

13:30 – 14:30 Discussion Panel 01 [60 min]

Discussion Panel Participants:

1. **Ph.D. Ignacy Góra**
Polish Office of Rail Transport (UTK)
President

2. **Piotr Malepszak**
Ministry of Infrastructure
Undersecretary of State at the Ministry of Infrastructure of Poland
3. **Ph.D. Alan Beroud**
International union of railways (UIC)
UIC Chairman dr inż. Alan Beroud
Polskie Koleje Państwowe SA (PKP SA)
President of the Polskie Koleje Państwowe S.A
4. **prof. D.Sc. Ph.D. Andrzej Szarata**
Cracow University of Technology
JM Rector of the Cracow University of Technology
5. **Katarzyna Strzegowska**
Public Transport Authority in Warsaw (ZTM Warszawa)
Director
6. **prof. D.Sc. Ph.D. Marianna Jacyna**
Warsaw University of Technology
Dean of Warsaw University of Technology Faculty of Transport
Committee on Transport of the Polish Academy of Sciences
Chairwoman
7. **Ph.D. Maciej Kaczorek**
PKP Polskie Linie Kolejowe SA
Member of the Management Board
8. **Piotr Rachwalski**
Centralny Port Komunikacyjny Sp. z o.o.
Member of the Management Board

LUNCH / NETWORKING

[60 min]

14:30 – 15:30

DISCUSSION PANEL 02

[90 min]

15:30 – 17:00

MOBILITY, AUTONOMOUS VEHICLES AND CYBERSECURITY IN RAIL TRANSPORT
INFRASTRUCTURE SYSTEMS AND EQUIPMENT AT RAILWAY STATIONS AND LINES

Moderator 1: **D.Sc. Ph.D. Andrzej Massel**
Railway Research Institute (IK)
Director of the Railway Research Institute

Moderator 2: **Ph.D. Mariusz Buława**
Polish Association of Transport Engineers and Technicians
Head of Cybersecurity Committee SITK RP

Voestalpine Signalling Poland Sp z o.o.
Managing Director, CEO

15:30 – 16:00 Discussion Panel opening speech [30 min]

Ph.D. Mariusz Buława

Polish Association of Transport Engineers and Technicians
Head of Cybersecurity Committee SITK RP

Voestalpine Signalling Poland Sp z o.o.
Managing Director, CEO

16:00 – 17:00 Discussion Panel 02 [60 min]

Discussion Panel Participants:

- 1. ALSTOM**
Representative
- 2. SIEMENS MOBILITY**
Representative
- 3. HITACHI**
Representative
- 4. KOMBUD GROUP**
Representative
- 5. AŻD**
Representative
- 6. Maximilian Veenstra**
BUREAU VERITAS GROUP
Senior Manager New Markets Cybersecurity
- 7. Zuzanna Wieczorek**
TEKNISKA
CEO
- 8. Marek Sokołowski**
Metro Warszawskie Sp. z o.o.
Member of the Management Board

COFFEE BREAK / NETWORKING [30 min]

17:00 – 17:30

DISCUSSION PANEL 03 [90 min]

17:30 – 19:00

MOBILITY, AUTONOMOUS VEHICLES AND CYBERSECURITY IN RAIL TRANSPORT
RAIL VEHICLES AND ONBOARD SYSTEMS

- Moderator 1: **D.Sc. Ph.D. Marek Pawlik, prof. IK**
Railway Research Institute (IK)
Vice-Director of Railway Research Institute,
Head of Interoperability Division
- Moderator 2: **Ph.D. Jakub Majewski**
Foundation „Pro Kolej”
President of the Management Board

PKP Polskie Linie Kolejowe SA
Head of the Supervisory Board at the PKP Polskie Linie Kolejowe SA
- 17:30 – 17:45 Discussion Panel opening speech 01 [15 min]
Maximilian Veenstra
BUREAU VERITAS GROUP
Senior Manager New Markets Cybersecurity
- 17:45 – 18:00 Discussion Panel opening speech 01 [15 min]
D.Sc. Ph.D. Marek Pawlik, prof. IK
Railway Research Institute (IK)
Vice-Director of Railway Research Institute
Head of Interoperability Division
- 18:00 – 19:00 Discussion Panel 03 [60 min]

Discussion Panel Participants

- 1. PESA Bydgoszcz**
Representative
- 2. ALSTOM**
Representative
- 3. Siemens Mobility**
Representative
- 4. HITACHI**
Representative
- 5. STADLER**
Representative
- 6. NEWAG**
Representative
- 7. HYUNDAI ROTEM**
Representative

CONCLUSION OF THE FIRST DAY OF CONFERENCE [15 min]
19:15 – 19:30

GALA DINNER / NETWORKING
20:00 – last guests ... :-)

Location: **InFormal Kitchen**
Pl. Małachowskiego 2
Entrance from Traugutta Street

>>> END OF THE 1ST DAY OF THE CONFERENCE IT/OT2025

15.04.2025 TUESDAY

Location: Warszawski Dom Technika NOT
 Sala A, III piętro
 ul. Czackiego 3/5, 00-043 WARSAW, PL

SESSION WITH PRESENTATIONS 01 10:00 – 11:30

[90 min]

DIGITAL SOLUTIONS IN RAILWAY INFRASTRUCTURE
CHALLENGES AND SOLUTIONS; NEEDS OF OPERATORS AND OPPORTUNITIES
FOR THE INDUSTRY

Moderator 1: **Ph.D.. Jacek Paś**
 Head of the Scientific and Programme Board,
 Polish Association of Transport Engineers and Technicians
 National Board (SITK RP)
 President

Moderator 2: **D.Sc. Ph.D. Andrzej Toruń, prof. IK**
 Railway Research Institute (IK)
 Kierownik Zakładu Sterowania Ruchem i Teleinformatyki

10:00 – 10:15	Presentation 01	[15 min]
10:15 – 10:30	Presentation 02	[15 min]
10:30 – 10:45	Presentation 03	[15 min]
10:45 – 11:00	Presentation 04	[15 min]
11:00 – 11:15	Presentation 05	[15 min]
11:15 – 11:30	Presentation 06	[15 min]

COFFEE BREAK / NETWORKING 11:30 – 12:00

[30 min]

SESSION WITH PRESENTATIONS 02
12:00 – 13:30

[90 min]

DIGITAL SOLUTIONS IN RAILWAY ROLLING STOCK
CHALLENGES AND SOLUTIONS; NEEDS OF OPERATORS AND OPPORTUNITIES
FOR THE INDUSTRY

Moderator 1: **D.Sc. Ph.D. Marek Pawlik, prof. IK**
Railway Research Institute (IK)
Vice-Director of Railway Research Institute
Head of Interoperability Division

Moderator 2: **Wojciech Dinges**
National Railway Section of SITK RP
POLREGIO SA
Vice-President of the Management Board

12:00 – 12:15	Presentation 01	[15 min]
12:15 – 12:30	Presentation 02	[15 min]
12:30 – 12:45	Presentation 03	[15 min]
12:45 – 13:00	Presentation 04	[15 min]
13:00 – 13:15	Presentation 05	[15 min]
13:15 – 13:30	Presentation 06	[15 min]

LUNCH / NETWORKING
13:30 – 14:30

[60 min]

SESSION WITH PRESENTATIONS 03
14:30 – 16:00

[90 min]

CHALLENGES OF AUTONOMOUS MOBILITY AND CYBERSECURITY
IN DIGITAL SOLUTIONS FOR RAILWAY INFRASTRUCTURE AND ROLLING STOCK
PART 1

Moderator 1: **Ph.D. Wawrzyniec Wychowański**
Polish Association of Transport Engineers and Technicians
National Board (SITK RP)
General Secretary

Moderator 2: **Ph.D. Marek Sumiła**
Railway Research Institute (IK)
Head of Automations and Telecommunications Laboratory

14:30 – 14:45	Presentation 01	[15 min]
14:45 – 15:00	Presentation 02	[15 min]
15:00 – 15:15	Presentation 03	[15 min]
15:15 – 15:30	Presentation 04	[15 min]
15:30 – 15:45	Presentation 05	[15 min]
15:45 – 16:00	Presentation 06	[15 min]

COFFEE BREAK / NETWORKING [30 min]
16:00 – 16:30

SESSION WITH PRESENTATIONS 04 [90 min]
16:30 – 18:00

CHALLENGES OF AUTONOMOUS MOBILITY AND CYBERSECURITY
IN DIGITAL SOLUTIONS FOR RAILWAY INFRASTRUCTURE AND ROLLING STOCK
PART 2

Moderator 1: **Ph.D. Jakub Majewski**
Foundation „Pro Kolej”
President of the Management Board

PKP Polskie Linie Kolejowe SA
Head of the Supervisory Board at the PKP Polskie Linie Kolejowe SA

Moderator 2: **prof. dr hab. inż Ewa Niewiadomska-Szynkiewicz**
NASK
Dyrektor ds. naukowych NASK

16:30 – 16:45	Presentation 01	[15 min]
16:45 – 17:00	Presentation 02	[15 min]

17:00 – 17:15	Presentation 03	[15 min]
17:15 – 17:30	Presentation 04	[15 min]
17:30 – 17:45	Presentation 05	[15 min]
17:45 – 18:00	Presentation 06	[15 min]

CONCLUSION OF THE FIRST DAY OF CONFERENCE [15 min]
18:00 – 18:15

CASUAL FRIENDS DINNER / NETWORKING
19:00 – last guests ... :-)

Location: AIOLI WARSAW
Cantine Bar Café Deli
ul. Świętokrzyska 18, 00-052 WARSAW, PL

>>> END OF THE 2ND DAY OF THE CONFERENCE IT/OT2025

16.04.2025 WEDNESDAY

Location: INSTYTUT KOLEJNICTWA HQ,
ul. Józefa Chłópickiego 50, 04-275 WARSZAWA
<http://www.ikolej.pl>

SESSION WITH PRESENTATIONS 01 **09:30 – 10:30**

[60 min]

CYBERSECURITY IN AGGLOMERATION RAIL TRANSPORT

Moderator 1:

Moderator 2:

09:30 – 09:45	Presentation 01	[15 min]
09:45 – 10:00	Presentation 02	[15 min]
10:00 – 10:15	Presentation 03	[15 min]
10:15 – 10:30	Presentation 04	[15 min]

COFFEE BREAK / NETWORKING **10:30 – 11:00**

[30 min]

EXPERT WORKSHOP / DISCUSSION PANEL **11:00 – 13:00**

[120 min]

CYBERSECURITY IN AGGLOMERATION RAIL TRANSPORT

LUNCH / NETWORKING **13:00 – 14:00**

[60 min]

TECHNICAL TRIP / NETWORKING **14:00 - ...**

>>> END OF THE CONFERENCE IT/OT2025

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