

RAILWAY FORUM CRACOW 2026

5-6 November 2026 | Qubus Hotel, Krakow, Poland



Resilience meets Technology New Challenges for European Railways

Digitalisation Automation and AI in Railway Infrastructure and Rolling Stock

1. Organisers

Role	Organisation
Official Organiser	UEEIV (Union of European Railway Engineering and Infrastructure Organisations)
Local Host	SITK – Railway Division (Polish Association of Railway Engineers)

2. Introduction

The world has been changing dramatically over the last ten years. The fragile equilibrium of the past is over. Every industry must prepare for new challenges. Artificial Intelligence, cybercrimes, sabotage, climate change – life is no longer predictable.

In Europe, railways play a key role in the transportation system. That is why their resilience is becoming more and more important. But resilience cannot be achieved by strategy alone – it needs solid engineering, intelligent technology, and fresh minds.

The Railway Forum Cracow 2026 brings both worlds together:

Classic Railway Engineering:

High speed rail, track superstructure, ERTMS, FRMCS, CBTC, EULYNX, interlocking, condition monitoring, rolling stock, ATP/ATO, animal protection system, turnout heating, and integrated solutions.

New Challenges:

Climate resilience of infrastructure, cybersecurity for signalling systems, AI-based condition monitoring, sabotage protection, and strategic resilience planning.

A special focus is placed on the young generation. Young engineers will not be an appendix at the end of the conference. They will take the stage on Day 1, right after the keynote – because they bring new energy, new wind to European railways.

The Forum will gather the academic society, engineering practitioners, railway enthusiasts, and – above all – the next generation of railway engineers. During presentations and discussions you will find new ideas, solutions to old problems, and fantastic networking within the international rail community.

We believe: Technology alone is not enough. Resilience alone is not enough. But technology, resilience, and young minds together – that is the future.

Welcome to Cracow 2026!

3. Timeline Overview

Day	Start	End	Venue
4 th November (Pre-conference Evening)	17:00	approx. 22:00	Cracow University of Technology
5 th November	09:30	17:30	Qubus Hotel
5 th November Evening	19:00	open	Networking Dinner
6 th November	08:30	18:00	Qubus Hotel
7 th November	09:00		Optional Excursion

4. Detailed Conference Program

4th November – Pre-Conference Evening

Venue: Cracow University of Technology

Time	Session	Topic / Details	Duration
Strategic Evening at Cracow University of Technology			
17:00 – 17:10	Evening Opening	Welcome address by UEEIV President & SITK President	10'
17:10 – 17:30	Perspective for high-speed rail transport in Poland	Welcome address and introduction by the Rector of the Cracow University of Technology – Prof. Andrzej Szarata	20'
17:30 -17:45	Cross-border traffic from Poland to its neighbors towards Germany, Baltic states, Ukraine and Romania from European perspective	Prof. Bogusław Liberadzki	15'
17:45 – 18:00	Perspective and challenges of cross-border rail transport Germany-Poland	Juergen Murach	15'
18:00 – 18:10	Break		10'
18:10 – 18:50	Political Strategy Block 3 speakers + moderator	Panel Discussion: Integration, Expansion and Modernization of Railway Lines between Poland, Germany, the Baltic States, Czech Republic and Austria Topics: Planned Polish High Speed Rail network "Y-Project" (Warsaw-Łódź-	40'



Poznań/Wrocław with extension to Germany and Czech Republic)

- Rail Baltica
- CMK extension Warsaw – Katowice – Ostrava – Vienna
- Coordination of vehicle procurement and train control systems

Panelists:

1. Jürgen Murach
2. Olaf Scholz-Knobloch (moderator)
3. Andrzej Massel
4. Bogusław Liberadzki
5. Zbigniew Szafrński
6. Andrzej Szarata

Media:

- Film by Hermann Schmidtendorf
- Report Rynek Kolejowy

18:50 – 19:00	Evening Closing	Short summary & outlook to Day 1	10'
19:00 – 22:00	Networking Get-together	Informal evening La Strada Catering	Min 120'

**5th November – Resilience & New Challenges**

Venue: Qubus Hotel Krakow

Time	Session	Topic / Details	Duration
09:30 – 09:35	Opening	Welcome address by UEEIV (official organizer) – Olaf Scholtz-Knobloch	5'
09:35 – 09:40	Opening	Welcome address by SITK (local organizer) Wawrzyniec Wychowański	5'
09:40 – 10:00	Opening / Greetings	Greetings by dignitaries Prof. Bogusław Liberadzki	20'
10:00 – 10:15	Keynote	Speakers: Dr hab. inż. Andrzej Massel – Railway Institute Warsaw Director Prof. Andrzej Szarata – Cracow University of Technology Rector	15'
Block 1: “New Generation Wind” Young Engineers			
Moderator: Sabri Ekrem – Demühder, Turkey			
10:15 – 10:25	Block 1a	Vision of future Railway Condition Monitoring System Track Tec Przemysław Stanisławski	10'
10:25 – 10:35	Block 1b	Numerical Modeling for Modern Rail Infrastructure Track Tec Piotr Piech	10'
10:35:10:45	Block 1c	Track me if you can: BIM & Digital Twins in railway infrastructure Track Tec Radosław Rybiński	10'

10:45 – 10:55	Block 1d	Designing Methods for Railway Sleepers and Their Optimization Track Tec Elżbieta Fiedorowicz	10'
10:55 – 11:30	Block 1 panel discussion	Panelists: Sabri Ekrem, Piotr Piech, Radosław Rybiński, Elżbieta Fiedorowicz Moderator: Przemysław Stanisławski	35'
11:30 – 12:00	Coffee Break		30'
Block 2 Resilience			
Moderator: Olaf Scholz-Knobloch, UEEIV			
12:00 – 12:15	Block 2a: Climate Resilience I	Bio regulated adaptive switch point heating system AREX WB Group - tbc	15'
12:15 – 12:30	Block 2b: Climate Resilience II	Animal protection systems – industry presentation NEEL – Dorota Bartoszek Majewska	15'
12:30 – 12:45	Block 2c Structural Resilience	An Invisible Shield and Unidirectional Fortification: Hardware Physical Separation as a Foundation for the Network Resilience of Railway Infrastructure Control 2S Security Systems dr hab. Jarosław Cymerski, ORCID, Colonel, State Protection Service (SOP) Railway Research Institute – dr hab. Lucyna Sokołowska prof. IK	15'
12:45 – 13:45	Lunch Break		60'
13:45 – 14:00	Block 2d: Structural Resilience	Sensonic Security Application Distributed Acoustic Sensing - Track Monitoring Sensonic - tbc	15'

14:00 – 14:15	Block 2e: Cybersecurity Resilience	Cybersecurity of interlocking (tbc) Siemens - Sohejl Lazemi-Wanjani,	15'
14:15 – 14:30	Block 2f: Sabotage Resilience	Physical protection of infrastructure – industry presentation Speaker tbc	15'
14:30 – 14:45	Block 2g: Cybersecurity Resilience	Railway cybersecurity in practice – from IEC PT 63452 requirements to anomaly detection in rolling stock and signaling NASK - Dr. Piotr Wulgaris, Krzysztof Piotrowski	15'
14:45 – 15:45	Block 2 panel discussion	Moderator: Dr hab. Jarosław Cymerski Panelists: Zbigniew Chyliński, Dorota Bartoszek-Majewska, Yannick Maier, Piotr Wulgaris, Krzysztof Piotrowski	60'
15:45 – 16:15	Coffee Break		30'
Block 3: Traffic optimization and monitoring			
Moderator: Giorgio Spadi – CIFI, Italy			
16:15 – 16:30	Bloc 3a Traffic optimization	ATO and TMS as a optimization tools of railway traffic with autonomous vehicles Czech Technical University in Prague Prof. Michał Matowicki	15'
16:30 – 16:45	Block 3b Integrated solutions	Highly integrated turnouts Voestalpine Signalling tbc	15'
16:45 – 16:50	Day 1 Closing	Summary by UEEIV / SITK	5'
19:00 – 22:00	Evening Event	Networking dinner – City of Cracow	3h

**6th November – Classic Railway Engineering (Deep Dive)**

Venue: Qubus Hotel Krakow

Time	Session	Topic / Details	Duration
08:30 – 08:35	Day 2 Opening	Welcome & recap by SITK / UEEIV	5'
Block 4: Infrastructure – Resilience Factor			
Moderator: Dermot Kelly – RailEI, United Kingdom			
08:35 – 08:50	Block 4a: HSR Infrastructure	Development of Prefabricated Elements for Railway Infrastructure – Current Solutions and Future Directions KZN Biezanów Dr. Dorota Błasziewicz	15'
08:50 – 09:00	Block 4b: HSR Infrastructure	A Geodetic Layer of Trust for Resilient AI-Assisted Condition Monitoring of Railway Infrastructure AGH University of Krakow Prof. Michał Strach	10'
09:00 – 09:10	Block 4c: Track superstructure	New approach to lifecycle hazard analysis and risk assessment Track Tec Jacek Paś	10'
09:10 – 09:25	Block 4d: Track superstructure	Eliminating hanging sleepers: Cost-Efficient, Intelligent Rail Solutions KamPa BV Paul Kampfraath	15'
09:25 – 09:40	Block 4e: Track superstructure	Knowing What Was Done to the Track: A Shared Data Dictionary and Automated Work Documentation with mPOM	15'

Rhomborg Sersa Rail Group Yorick Teeuwen			
09:40 – 10:15	Coffee Break		35'
10:15 – 10:30	Block 4f: Track superstructure	On Ballast or on Slab? Comparing Modern Track Systems Cracow University of Technology Dr. Łukasz Chudyba	15'
10:30 – 11:15	Block 4g: Track Solutions	Block system reimagined – EBS New Generation Edilon Sedra Ryan Stolpmann	45'
11:15 – 11:30	Block 4h: Operational Intelligence	Operational Intelligence for Railways: A Reference Architecture for Decision-Centric Railway Operations Incremental Solutions Limited Tim Flower	15'
11:30 – 11:45	Block 4i: Track solutions	Balastless Track – Tines for High Speed Rail Michał Rybacki	15'
11:45 – 12:00	Block 4j: Track solutions	Lateral Track Stability under Climate Change - Influence of Environmental Factors on the Behaviour of Lateral Track Resistance University of Innsbruck Lukas Niedermair	15'
12:00 – 12:15	Block 4k: Track solutions	Future-Proof Railway Infrastructure: Slab Track Austria, BIM and Digital Innovation from Construction to Operations Porr Michał Kościelniak Santanu Biswas	15'

12:15 – 13:00	Block 4: Panel discussion on superstructure	Panelists: Dorota Błasziewicz, Łukasz Chudyba, Krzysztof Downar, Tim Flower, Lukas Niedermair, Michał Rybacki Moderator: Jacek Paś	45'
13:00 – 14:00	Lunch break		60'
Block 5: Command & Control, Railway Automation			
Moderator: Andrzej Cholewa – SITK, Poland			
14:00 – 14:15	Block 5a: Command & Control	ETCS Level 1 Limited Supervision: Accelerating ERTMS Deployment Across Central and Eastern Europe Kombud Group Eng. Dobromir Jasiński, ETCS Project Manager	15'
14:15 – 14:30	Block 5b	ETCS Limited Supervision (tbc) Siemens Rafael Herok / Markus Häusermann	15'
14:30 – 14:45	Block 5c	Level crossing – industry presentation MONAT Janusz Okrój	15'
14:45 – 15:00	Block 5d	Technical compatibility issues in the context of ESC testing on the Polish rail network Railway Research Institute mgr inż. Dominik Adamski, dr hab. inż. Andrzej Toruń, prof. IK	15'
15:00 – 15:15	Coffee Break		15'

Block 6 : Modern Rolling Stock

Moderator: Olaf Scholz-Knobloch – UEEIV President, Germany

15:15 - 15:30	Block 6a: Rolling Stock	Cybersecurity in rolling stock reality or illusion (tbc) NEWAG Group Józef Michalik	15'
15:30– 15:45	Block 6b: Rolling Stock	Assessing the economic feasibility of the hydrogen-powered locomotive conversion using real railway operational data Prof. Mine Sertsöz Eskişehir Technical University, Turkey	15'
15:45 – 16:00	Block 6d: Rolling Stock	Alstom Piotr Pustoszkín	15'
16:00 – 16:15	Farewell	Closing remarks by UEEIV & SITK, announcement of Railway Forum 2027	15'



7th November – Optional Excursion

Time	Topic / Details
09:00–11:30	Kraków Tram Technical Excursion Charter tram tour along Line 74, with an MPK expert explaining tram infrastructure, network development and expansion plans, operations and investment financing. The route includes Nowa Huta tram depot, with historic rolling stock including former Vienna trams, and the modern Wzgórza Krzesławickie terminus with Park & Ride.
11:45–12:50	Lunch at own cost Traditional Polish lunch at historic Restaurant Stylowa in Nowa Huta.
12:55–13:00	Nowa Huta Short walk through the district with a brief introduction to its development and current use.
13:10–13:25	Tram to Kraków Główny Special tram transfer to the main railway station for onward train connections.