

16:00–16:40 Coffee break

16:40–18:40 Lecture block on the topic ***wheel-rail contact and experimental testing devices***

Janoš P. [BONATRANS GROUP a. s.], Kovář L., Šíroky J., Kotrba A.:
Analysis of Parameters Affecting the Wheels Lifespan

16:40 – 17:00

Pulda J. [University of Pardubice, Faculty of Transport Engineering], Voltr P., Culek B.:
Experimental Proof of Spin Influence on Rail-Wheel Contact Forces: Measurements Design on Roller Test Rig

17:00 – 17:20

Voltr P. [University of Pardubice, Faculty of Transport Engineering], Bílek A., Lata M.:
Adhesion Conditions under the Influence of Solid Flange Lubricants – Full-Scale Roller Rig Tests

17:20 – 17:40

Piskač J. [Czech Technical University in Prague, Faculty of Mechanical Engineering], Pechar S.:
DAKO Train Test Stand

17:40 – 18:00

Kalivoda J. [Czech Technical University in Prague, Faculty of Mechanical Engineering], Bauer P., Novák M., Novák Z.:
Contactless System for Wheelsets' Angle of Attack Measurement

18:00 – 18:20

Raif L. [DT – Výhybkárna a strojírna, a.s.], Vévoda A., Komárek M., Výmola L.:
Abt Rack Railway Turnouts and Rack Railway Vehicle Passage Solutions

18:20 – 18:40

18:40–18:50 Conference closing ceremony

19:00–24:00 Conference banquet

FRIDAY September 19, 2025 TECHNICAL VISIT TO THE MUSEUM OF OLD MACHINES AND TECHNOLOGIES IN ŽAMBERK

*The special train is scheduled to **depart from Česká Třebová at approximately 8 a.m.**; en route, the train will stop to pick up passengers at the Ústí nad Orlicí město station. A bus will be used to transport passengers from the railway station in Žamberk to the museum (and back).*

The museum will offer a tour of the exhibition and a program featuring narrow-gauge locomotives; lunch will be provided for participants as part of the technical visit.

*The special train is expected to return to Česká Třebová at around 4 p.m.; passengers will be able to leave the train at the Ústí nad Orlicí station. **Exact times and details will be specified during the conference.***

CONTRIBUTIONS IN POSTER SESSION (September 17–18, 2025)

Fridrichovský T. [Czech Technical University in Prague, Faculty of Mechanical Engineering]:
Use of the VRUT System in Education of Railway Vehicles

Hába A. [University of Pardubice, Faculty of Transport Engineering]:
Guidance of Tram Wheelset Passing Over Obtuse Crossing

Chvojan J. [Výzkumný a zkušební ústav Plzeň s.r.o.]:
Research and Testing Institute in Pilsen Possibilities and Tools for Research, Development and Quality Improvement of Railway Stocks and Their Components

Kohout M. [University of Pardubice, Faculty of Transport Engineering], Řihák D., Vaniš J.:
Selected Braking Problems of Freight Wagons with Disc Brake

Michálek T. [University of Pardubice, Faculty of Transport Engineering], Šlapák J., Salaba V., Heřt D.:
Selected Problems of Vehicle-Track Interaction in Small-Radius Curves

Voltr P. [University of Pardubice, Faculty of Transport Engineering], Netolický J., Liberová S.:
Twin-Disc Testing of Solid Lubricants for Wheel-Rail Interface – The Influence of Solid Lubricant Stick Loading

Vyhnanovský M. [University of Pardubice, Faculty of Transport Engineering], Nachtigall P., Křížan L., Vojtek M.:
Modern Rolling Stock as a Pillar of the Technological Triangle

Note: The organizers reserve the right to change the program.

Association of Mechanical Engineers, Czech Republic – Česká Třebová Club
Faculty of Transport Engineering of the University of Pardubice
Faculty of Mechanical Engineering of the University of Žilina

27th conference with international participation



which is held under the auspices of

Martin Kupka
Minister of Transport of the Czech Republic

Martin Netolický
President of the Pardubice Region

Ladislav Řoutil
Dean of the Faculty of Transport Engineering of the University of Pardubice

Conference program

The general partner of the conference is the company



The media partner of the conference is the journal



The partners of the conference are the companies



September 17–19, 2025

Cultural Center in Česká Třebová, Czech Republic

SCHEDULE OF LECTURES

WEDNESDAY September 17, 2025

08:00–10:00	Registration of participants	
10:00–10:20	Conference opening ceremony Speech of guests	
10:20–10:30	Break	
10:30–11:50	Introductory lecture block – <i>invited lectures</i>	
	Pulda J. [VÚKV a.s.], Mrzena R., Heptner T., Mouřeček Z.: Increase of Traction Forces in Head of a Train above Current Limit in the Network of Správa Železnic	10:30 – 10:50
	Malkovský Z. [VÚKV a.s.]: Digital Automatic Coupling (DAC) – Project Information	10:50 – 11:10
	Benický M. [CZ LOKO a.s.], Haupt L.: Current State of Development of Dual Locomotives in CZ LOKO	11:10 – 11:30
	Pohl J. [Siemens Mobility, s.r.o.]: System Solution for Decarbonisation of Rail Transport	11:30 – 11:50
11:50–13:20	Lunch	
13:20–16:00	Lecture block on the topic <i>modern rail vehicles</i>	
	Šindel R. [Siemens Mobility, s.r.o.]: Emission-Free Rail Vehicles for Regional Passenger Rail Transport	13:20 – 13:40
	Folwarczny D. [ŠKODA TRANSPORTATION a.s.]: Battery Electric Multiple Units ŠKODA	13:40 – 14:00
	Mlynařík L. [University of Pardubice, Faculty of Transport Engineering], Novák J., Sadílek O.: Simulation Calculations of the Effects of Operation on the Consumption of a Battery Rail Vehicle	14:00 – 14:20
	Sýkora R. [ŠKODA TRANSPORTATION a.s.], Kopečný M., Černušek P.: Experience with the Start of Operation of ŠKODA Single-Deck EMUs	14:20 – 14:40
	Bílek A. [České dráhy, a.s.], Elstner M., Ritter V.: Operation and Maintenance of the Electric Multiple Units with Traction Battery	14:40 – 15:00
	Strítěský P. [AŽD Praha, s.r.o.], Novák M.: Autonomous Operation from the Perspective of Operation and Necessary Vehicle Design Modifications	15:00 – 15:20
	Sála P. [ŠKODA TRANSPORTATION a.s.], Skrypachov K., Strazhnyk V.: Metro Train for City Sofia	15:20 – 15:40
	Šimek P. [CZ LOKO a.s.]: Locomotives for Operation in Nordic Conditions	15:40 – 16:00
16:00–16:40	Coffee break	
16:40–18:40	Lecture block on the topic <i>dynamics and simulation of rail vehicles</i>	
	Červenka Z. [ŠKODA TRANSPORTATION a.s.], Byrtus M.: Simplified Dynamic Models in Suspension Optimization, Part 2	16:40 – 17:00
	Jeniš F. [Brno University of Technology, Faculty of Mechanical Engineering], Macháček O., Michálek T., Staněk P.: Ride Comfort Increasing with Semi-Actively Controlled Dampers – Running Tests	17:00 – 17:20
	Vrba J. [Czech Technical University in Prague, Faculty of Mechanical Engineering], Dybala V.: The Research and Application Possibilities for the Wheelset Active Steering System for Tramcars	17:20 – 17:40
	Pejša J. [VÚKV a.s.]: Validation of an MBS Model of a Tram	17:40 – 18:00

Ježdík R. [VÚKV a.s.], Lopot F., Rulc V.: Tram Front Ends Testing with Respect to the Collision with a Pedestrian	18:00 – 18:20
Plomer J. [Siemens Mobility s.r.o.]: Bridge Compatibility of Railway Vehicles	18:20 – 18:40

THURSDAY September 18, 2025

08:30–09:30	Lecture block on the topic <i>vehicle-environment interaction</i>	
	Mergl E. [VÚKV a.s.], Šátek J.: The Measurements of Aerodynamic Effects in Tunnels on the Czech Railway Network	08:30 – 08:50
	Štorkán M. [VÚKV a.s.]: Effect of a Tunnel on the Internal Noise of a Railway Vehicle	08:50 – 09:10
	Vnenk P. [Správa železnic, s.o.], Tomandl V., Fridrich K.: Update of ČSN 73 4959 with Emphasis on Horizontal and Vertical Requirements on Boarding Edges of Platforms	09:10 – 09:30
09:30–10:10	Coffee break	
10:10–11:50	Lecture block on the topic <i>maintenance & diagnostics of vehicles and infrastructure</i>	
	Janiš O. [Railpool GmbH]: Organisation of Traction Vehicle Maintenance in the Conditions of a European Leasing Company	10:10 – 10:30
	Culek B. [University of Pardubice, Faculty of Transport Engineering], Schmidová E.: Renovation of the Rail Head Running Surface by Plasma Welding	10:30 – 10:50
	Hlaváč J. [RYKO a.s.]: Innovations in Non-Destructive Testing of Railway Freight Wagon Wheelset Axles	10:50 – 11:10
	Kovář O. [STARMON s.r.o.]: Complex Diagnostics of Running Railway Vehicles and Railway Superstructure	11:10 – 11:30
	Vágnér J. [University of Pardubice, Faculty of Transport Engineering], Voltr P., Šlapák J., Kohout M., Sála P., Strazhnyk V.: On-Board Diagnostics of Dynamic Response of Railway Vehicle Wheels	11:30 – 11:50
11:50–13:20	Lunch	
13:20–16:00	Lecture block on the topic <i>vehicle subsystems and components, ETCS</i>	
	Švéd S. [VÚKV a.s.], Bauer P., Fridrichovský T., Havlík K., Moravčík M., Musil J., Pejša J., Pulda J., Sakalík V.: Innovative Freight Bogie NP-X	13:20 – 13:40
	Novotný O. [SKF CZ a.s.], Babka J.: Cylindrical Roller Unit for Freight Application Equipped by Bogies System Y25	13:40 – 14:00
	Kolář J. [Czech Technical University in Prague, Faculty of Mechanical Engineering]: Advantages of Using Two-Speed Gearboxes in Wheelset Drives of Rail Vehicles BEMU	14:00 – 14:20
	Búry M. [Tatravagónka a.s.], Moravčík M.: Stanchions of the Snps Freight Wagon – Structural Solutions and Mechanical Loading during Log and Sawm Timber Transport	14:20 – 14:40
	Gerlici J. [University of Žilina, Faculty of Mechanical Engineering], Lovska A., Dižo J.: Analysis of the Strength of an Open Wagon Body When It Is Lifted to Change Bogies at a Railway Ferry Station	14:40 – 15:00
	Ivanov I. [AŽD Praha, s.r.o.], Jaroš M., Marek S.: Integration of ETCS On-Board Units in Rolling Stock	15:00 – 15:20
	Štěpánek J. [CZ LOKO a.s.], Kubela J.: Experience from ETCS On-Board Installations	15:20 – 15:40
	Lieskovský A. [AŽD Praha s.r.o.], Myslivec I.: AVV over ETCS	15:40 – 16:00