



Modern Electric
Traction **2024**

XV Międzynarodowa Konferencja
Naukowo-Techniczna

Modern Electric Traction 2024

*Racjonalizacja Zużycia Energii
w Transporcie Zelektryfikowanym*

17-19 czerwca 2024 r.
Warszawa



Stowarzyszenie Inżynierów
i Techników Komunikacji RP
Zarząd Krajowy



Instytut
Elektroenergetyki
POLITECHNIKA WARSZAWSKA

Warsaw University
of Technology

WSPÓŁORGANIZACJA



Stowarzyszenie Elektryków Polskich
Zarząd Główny

PATRONAT HONOROWY



Ministerstwo
Infrastruktury



SAMORZĄD
WOJEWÓDZTWA
MAZOWIECKIEGO

Mazowsze.
serce Polski



Zarząd
Transportu Miejskiego
w Warszawie



PKP POLSKIE LINIE KOLEJOWE S.A.

Zarządca narodowej sieci linii kolejowych



cupt

CENTRUM UNIJNYCH
PROJEKTÓW TRANSPORTOWYCH

PATRONI MEDIALNI



**TRANSPORT
MIEJSKI
I REGIONALNY**
URBAN AND REGIONAL TRANSPORT

PARTNER GENERALNY



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WARUNKI UCZESTNICTWA

Warunkiem uczestnictwa w konferencji jest przesłanie wypełnionej karty uczestnictwa oraz wpłaty na konto Zarządu Krajowego SITK RP nr: **38 1160 2202 0000 0000 2741 3872** – do **12.06.2024 r.**

Koszt udziału w konferencji **2 500 zł + 23% VAT**
(noclegi we własnym zakresie)

Koszt udziału w konferencji dla członków SITK RP, członków SEP, pracowników oraz studentów kierunkowych uczelni wyższych **1250 zł + 23% VAT**
(noclegi we własnym zakresie)

Udział w części merytorycznej konferencji dla pracowników naukowych oraz studentów: Wydziału Elektrycznego Politechniki Warszawskiej oraz Wydziału Transportu Politechniki Warszawskiej po wcześniejszym zgłoszeniu jest bezpłatny.

Konferencja w całości będzie tłumaczona symultanicznie na język angielski oraz język polski.

LOKALIZACJA

17.06.2024 Monday

18.06.2024 Tuesday

Location:

Warsaw University of Technology

Plac Politechniki 1, 00-661 Warsaw

The Main Building,

Mała Aula, 1st floor

19.06.2024 Wednesday

Location:

Faculty of Electrical Engineering,

Warsaw University of Technology

Plac Politechniki 1, 00-661 Warsaw

Faculty of Electrical Engineering,

Building Stara Kociołnia hall 4/5

KOMITET PROGRAMOWY

Prof. dr hab. inż. Adam Szeląg

Przewodniczący Komitetu Programowego
Instytut Elektroenergetyki, Wydział Elektryczny, Politechnika Warszawska

dr inż. Jacek Paś

Stowarzyszenie Inżynierów i Techników Komunikacji RP
Prezes

dr hab. inż. Sławomir Cieślik, prof. PBS

Stowarzyszenie Elektryków Polskich
Prezes

dr hab. inż. Andrzej Massel

Instytut Kolejnictwa, Dyrektor

dr hab. inż. Marek Pawlik, prof. IK

Instytut Kolejnictwa,
Z-ca Dyrektora ds. Interoperacyjności Kolei

dr hab. inż. Sylwester Robak, prof. PW

Dyrektor Instytutu Elektroenergetyki, Politechnika Warszawska

Prof. dr hab. Marianna Jacyna

Dziekan Wydziału Transportu, Politechnika Warszawska

dr hab. inż. Mirosław Lewandowski, prof. PW

Instytut Elektroenergetyki, Politechnika Warszawska

dr hab. inż. Tadeusz Maciołek, prof. PW

Instytut Elektroenergetyki, Politechnika Warszawska

dr inż. Włodzimierz Jefimowski

Instytut Elektroenergetyki, Wydział Elektryczny, Politechnika Warszawska

Prof. Andrea Mariscotti

University of Genoa

Prof. Mladen Niksić

University of Zagreb

Dr hab. Andrzej Wilk

Katedra Inżynierii Elektrycznej Transportu, Politechnika Gdańska

Dr hab. inż. Piotr Biczal

PGE Energetyka Kolejowa S.A./Politechnika Warszawska

Dr inż. Maciej Krocak

Ekspert, Centralny Port Komunikacyjny

Dr inż. Marek Patoka

Product Manager - Traction Power Systems, ABB

KOMITET ORGANIZACYJNY

dr inż. Wawrzyniec Wychowański

Stowarzyszenie Inżynierów i Techników Komunikacji RP

Sekretarz Generalny

mgr inż. Andrzej Werkowski

Stowarzyszenie Elektryków Polskich

Sekretarz Generalny

mgr inż. Hanna Szary

Stowarzyszenie Inżynierów i Techników Komunikacji RP

Kierownik Wydziału Konferencji i Prac Eksperckich

mgr Roman Góralski

Stowarzyszenie Inżynierów i Techników Komunikacji RP

mgr Ewa Wojdyńska

Stowarzyszenie Inżynierów i Techników Komunikacji RP

mgr Elżbieta Nowicka

Stowarzyszenie Inżynierów i Techników Komunikacji RP

mgr Katarzyna Gawlik-Tarnowska

Stowarzyszenie Inżynierów i Techników Komunikacji RP, Oddział w Warszawie

GŁÓWNE CELE KONFERENCJI

- Prezentacja i dyskusja doświadczeń związanych z:
 - wdrożeniem systemu zasilania 2×25 kV AC 50 Hz w Polsce, w krajach sąsiadujących oraz w całym obszarze Europy Środkowej, razem z Ukrainą;
 - oszczędnością i racjonalizacją zużycia i kosztów energii w transporcie, w tym zwiększenie efektywności i wykorzystania energii hamowania odzyskowego, zmniejszenie strat przesyłowych i przetwarzania energii w układzie zasilanie i taborze;
 - wykorzystaniem rozwiązań opartych na magazynach energii w transporcie zelektryfikowanym rozwojem rozwiązań opartych na energii odnawialnej dla transportu zelektryfikowanego;
 - ekomobilnością w taborze kolejowym, ze szczególnym uwzględnieniem taboru hybrydowego i niekonwencjonalnych źródeł energii w transporcie zelektryfikowanym;
 - elektromobilnością i elektrycznym transportem masowym: komplementarność a nie konkurencyjność.
- Wymiana doświadczeń między firmami krajowymi i zagranicznymi oraz środowiskiem naukowym.
- Zacieśnienie współpracy między nauką i przemysłem – sprzyjanie komercjalizacji prac naukowych, wymiana poglądów w zakresie kształcenia kadry inżynierskiej ze względu na rozwój rynku.
- Budowa platformy dla zintegrowania pracodawców z potencjalnymi pracownikami w rozumieniu studentów uczelni wyższych technicznych o profilu naukowym kierunkowo zgodnym z tematyką Konferencji.

MAIN CONFERENCE OBJECTIVES

The main objectives of the 15th MET2024 Conference Warsaw are listed below:

- Presentation and discussion of experiences related to:
 - implementation of a 2×25 kV AC 50 Hz power supply system in Poland with neighboring countries and among the Central Europe area together with Ukraine;
 - savings and rationalization of energy consumption and costs in transport, including: increasing the efficiency and use of regenerative braking energy, reducing transmission losses and energy conversion in the power supply system and rolling stock;
 - use of the energy storage based solutions in electrified transport;
 - development of the renewable energy based solutions for electrified transport;
 - eco-mobility approach in rolling stock with special attention paid to the hybrid rolling stock and unconventional energy sources in electrified transport;
 - electromobility and electric mass transport: complementarity, not competitiveness.
- Exchange of experiences between domestic and foreign companies as well as exchange between the scientific community.
- Tightening cooperation between science and industry, by supporting the commercialization of scientific works, exchange of views on the education of engineering staff due to the market development needs.
- Building a platform for integrating employers with potential employees in the sense of students of technical universities with a scientific profile consistent with the theme of the Conference.

INFORMATION

SITK RP National Board

ul. Czackiego 3/5, 00-043 Warszawa
e-mail: met2024@sitkrp.org.pl
Ewa Wojdyńska + 48 692 556 037

EN Language Conference Contact:

Wawrzyniec Wychowański
+ 48 505 787 221

June 17, 2024 • MONDAY

Warsaw University of Technology

Plac Politechniki 1, 00-661 Warsaw

The Main Building, Mała Aula, 1st floor

10:30

CONFERENCE GUEST REGISTRATION

11:30

11:30

PLENARY SESSION

13:00

11:30 - 11:35 Conference Guest welcome

Ph.D. Wawrzyniec Wychowański

SITK RP National Board

General Secretary

11:35 - 11:40 Conference opening speech

Ph.D. Jacek Paś

SITK RP National Board

President

prof. D.Sc. Ph.D. Janusz Dyduch

SITK RP National Board

Honorary President

11:40 - 11:50 Conference opening presentation

Brief history of MET Conferences 1993-2024 and 120th anniversary of prof. Jan Józef Podoski birthday

prof. D.Sc. Ph.D. Adam Szeląg

Warsaw University of Technology

Institute of Electrical Power Engineering

Traction and Electrical Power

Engineering Economy Division

**11:50 – 13:00 Speeches by Honorary Guests,
co-organizers and Partners**

- **Politechnika Warszawska**
prof. D.Sc. Ph.D. Krzysztof Zaremba
JM Rector of the Warsaw University of Technology
- **Politechnika Warszawska Wydział Transportu**
prof. D.Sc. Ph.D. Marianna Jacyna
Dean of Warsaw University of Technology Faculty of Transport
- **Politechnika Warszawska Wydział Elektryczny**
prof. D.Sc. Ph.D. Lech Grzesiak
Dean of Warsaw University of Technology Faculty of Electrical Engineering
- **Zarząd Transportu Miejskiego w Warszawie**
Katarzyna Strzegowska
Director of the Public Transport Authority in Warsaw
- **EU DG ENER – European Commission Direktorat General for Energy**
Łukasz Kolinski
Head of Unit, Renewables and Energy System Integration Policy (ENER.C.1)
- **Urząd Transportu Kolejowego**
Ph.D. Ignacy Góra
President of the Polish Office of Rail Transportation
- **Ministerstwo Infrastruktury**
Piotr Malepszak
Undersecretary of State at the Ministry of Infrastructure of Poland

- **Polskie Koleje Państwowe S.A.**
Ph.D. Alan Beroud
President of the Polskie Koleje Państwowe S.A.
- **Centralny Port Komunikacyjny Sp. z o.o.**
Zbigniew Szafrński
Head of the Supervisory Board at Centralny Port Komunikacyjny
- **PKP Polskie Linie Kolejowe S.A.**
Ph.D. Maciej Kaczorek
Member of the Management Board Director for Strategy and Development
- **Metro Warszawskie Sp. z o.o.**
Ph.D. Jerzy Lejk
President of the Metro Warszawskie Sp. z o.o.
- **Instytut Kolejnictwa**
D.Sc. Ph.D. Andrzej Massel
Director of the Railway Institute
- **Koleje Wielkopolskie Sp. z o.o.**
Marek Nitkowski
President of the Koleje Wielkopolskie Sp. z o.o.
- **Koleje Mazowieckie Sp. z o.o.**
Cezary Lewandowski
Vice President
Member of the Management Board
- **Stowarzyszenie Elektryków Polskich**
D.Sc. Ph.D. Sławomir Cieślik
President of the Stowarzyszenie Elektryków Polskich

- **Polskie Sieci Energetyczne**
Stanisław Pokora
Director of Technical Standards Department
- **PGE Energetyka Kolejowa**
Tomasz Besztak
Vice-President of PGE Energetyka Kolejowa
- **HITACHI ENERGY**
Cezary Lis
Transportation Segment Manager
- **KOMBUD GROUP**
Anna Szczygielska
Member of the Management Board
- **SIEMENS MOBILITY Sp. z o.o.**
Adam Szymankiewicz
Sales and Project Director,
Railway Infrastructure Responsible Business Manager
- **PESA BYDGOSZCZ S.A.**
Krzysztof Zdziarski
President of the Management Board.
- **H. CEGIELSKI – FABRYKA POJAZDÓW
SZYNOWYCH Sp. z o.o.**
Maciej Rodek
Chairman of the Board
- **RPS Rail Power Systems**
Ralf Mauren
Country Manager Poland at RPS

13:00

DISCUSSION PANEL 01

14:30

Rolling stock development for energy-efficient electrified transport

Panel under general patronate of Association of Polish Electrical Engineers (SEP)

MODERATOR:

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

RAILWAY INSTITUTE

Vice-Director of Railway Institute

Head of Interoperability Division

Chairman ISAC-Railway

13:00 - 13:15 Opening presentation 01

Energy efficiency and renewable energy sources based approach for High Speed Railway readiness programme in PESA Bydgoszcz S.A.

Bartosz Antkowiak

PESA BYDGOSZCZ S.A.

Director of Architecture,

Systems and Control Department

13:15 - 13:30 Opening presentation 02

Infrastructural limitations for rolling stock and expectations of railway transport operators as a challenge for rolling stock industry

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

RAILWAY INSTITUTE

Vice-Director of Railway

Institute, Head of Interoperability Division

Chairman ISAC-Railway

13:30 – 14:30 Discussion Panel

Discussion Panel Participants:

- **Zbigniew Szafrński**
CENTRALNY PORT KOMUNIKACYJNY Sp. z o.o.
Head of the Supervisory Board
- **Piotr Kubicki**
PKP POLSKIE LINIE KOLEJOWE S.A.
Member of the Management Board
Director of the digital transformation
- **Józef Michalik**
NEWAG S.A.
Vice President
- **Artur Fryczkowski**
ALSTOM POLSKA S.A.
Vice President
- **Bartosz Antkowiak**
PESA BYGOSZCZ S.A.
Director of Architecture,
Systems and Control Department
- **Jacek Fink-Finowicki**
SIEMENS MOBILITY Sp. z o.o.
Rolling Stock Expert
- **Maciej Rodek**
H. CEGIELSKI – FABRYKA POJAZDÓW
Chairman of the Board
- **Arkadiusz Świerkot**
STADLER POLSKA Sp. z o.o.
Member of the Executive Board
- **Maciej Morgen**
SIEMENS ENERGY
Service Sales Manager

14:30

LUNCH BREAK / NETWORKING

15:30

HINT:

15:00-15:30

During your lunch break, you can watch a biographical movie about Józef Podoski
120th anniversary of prof. Jan Józef Podoski birthday

15:30

DISCUSSION PANEL 02

17:00

Energy efficiency, energy savings and renewable energy sources in electrified transport

MODERATOR 1:

D.Sc. Ph.D. Piotr Biczel

WARSAW UNIVERSITY OF TECHNOLOGY

Faculty of Electrical Engineering

Institute of the Theory of Electrical Engineering

Measurement and Information

Systems/PGE Energetyka Kolejowa

MODERATOR 2:

Ph.D. Jacek Paś

SITK RP NATIONAL BOARD

President

15:30 – 15:45 Opening presentation 01

Automatic Train Operation with optimization of traction energy consumption in new 16EV vehicles manufactured by Skoda for the Riga agglomeration railway.

Tomas Zazvorka

ŠKODA GROUP, ŠKODA DIGITAL s.r.o.

Senior Sales Manager

15:45 – 16:00 Opening presentation 02

Smart Power Grid as a fast track to the green railway system

D.Sc. Ph.D. Piotr Biczel

WARSAW UNIVERSITY OF TECHNOLOGY
Faculty of Electrical Engineering,
Institute of the Theory of Electrical Engineering,
Measurement and Information Systems/PGE
Energetyka Kolejowa

16:00 – 17:00 Discussion Panel

Discussion Panel Participants:

- **Alan Beroud**
POLSKIE KOLEJE PAŃSTWOWE S.A.
President of the Management Board
- **Marek Nitkowski**
KOLEJE WIELKOPOLSKIE Sp. z o.o.
President of the Management Board
- **Marek Sokołowski**
METRO WARSZAWSKIE Sp. z o.o.
Member of the Management Board
- **Krzysztof Zdziarski**
PESA BYDGOSZCZ S.A.
President of the Management Board
- **Janusz Biliński**
MEDCOM Sp. z o.o.
Director of traction development at Medcom
- **Jakub Papiernik**
HITACHI ENERGY POLAND Sp. z o.o.
Grid Automation Market Manager Poland

- **Paweł Majka**
PGE ENERGETYKA KOLEJOWA S.A.
Director in the Electricity Distribution Department
- **Witold Bartnik**
REDS SA
President of the Management Board

17:00

COFFEE BREAK / NETWORKING

17:15

17:15

DISCUSSION PANEL 03

19:00

*2×25 kV AC/50 hz advancement
and implementation in the 3 Seas area*

MODERATOR 1:

prof. D.Sc. Ph.D. Adam Szeląg

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering
Traction and Electrical Power Engineering
Economy Division

MODERATOR 2:

Ph.D. Wawrzyniec Wychowański

SITK RP NATIONAL BOARD
General Secretary

17:15 – 17:30 Opening presentation 01

*Activities of PKP Polskie Linie Kolejowe S.A.
in the implementation of the AC based traction network
power supply system*

Radosław Burak-Romanowski

PKP POLSKIE LINIE KOLEJOWE S.A.
Director of the Energy Office

17:30 – 17:45 Opening presentation 02

*2×25 kV traction power supply for HSR in Poland –
status report*

Mateusz Malinowski

CENTRALNY PORT KOMUNIKACYJNY Sp. z o.o.
Deputy Director of the Office for CCS and Energy
Subsystems

17:45 – 19:00 Discussion Panel

Discussion Panel Participants:

- **Radosław Burak-Romanowski**
PKP POLSKIE LINIE KOLEJOWE S.A.
Director of the Energy Office
- **Mateusz Malinowski**
CENTRALNY PORT KOMUNIKACYJNY Sp. z o.o.
Deputy Director of the Office for CCS and
Energy Subsystems
- **Ralph Klinge**
RAIL POWER SYSTEMS GmbH
Director International Sales & Business Development
- **Prof. Mladen Niksić**
UNIVERSITY OF ZAGREB
Faculty of Transport and Traffic Sciences

- **Antanas Šnirpūnas**
RB RAIL AS, RAIL BALTICA
Power Supply Team Leader
- **Tomasz Besztak**
PGE ENERGETYKA KOLEJOWA
Vice-President of PGE Energetyka Kolejowa
- **Stan Gnap**
HITACHI ENERGY SWITZERLAND Ltd
Business Development Director
- **Adam Szymankiewicz**
SIEMENS MOBILITY Sp. z o.o.
Sales and Project Director
Railway Infrastructure Responsible
Business Manager

19:00

19:15

CONCLUSION/SUMMARY OF FIRST DAY OF THE CONFERENCE

prof. D.Sc. Ph.D. Adam Szelağ

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

Ph.D. Jacek Paś

SITK RP NATIONAL BOARD
President

Ph.D. Wawrzyniec Wychowański

SITK RP NATIONAL BOARD
General Secretary

20:15

—
last
guests

GALA DINNER / NETWORKING

Gala Dinner Location:

ORZO KONSTYTUCJI RESTAURANT

Plac Konstytucji 5,

00-657 Warsaw

www.orzo.pl

END OF THE DAY 17/06/2024

June 18, 2024 • TUESDAY

Warsaw University of Technology

Plac Politechniki 1, 00-661 Warsaw

The Main Building, Mała Aula, 1st floor

09:00

SESSION WITH PRESENTATIONS 01

10:30

Traction System Analysis [TSA] – Traction analysis with definition of interface and impact on related systems

MODERATOR 1:

Ph.D. Włodzimierz Jefimowski

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering Traction and
Electrical Power Engineering Economy Division

09:00 – 09:15 Presentation 01

Proposals of comparative criteria for choosing AC-DC electrification system on railway lines in Poland

prof. D.Sc. Ph.D. Adam Szeląg

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

09:15 – 09:30 Presentation 02

Rail Power Systems (RPS) approach to the traction system analysis from various railway areas worldwide – experience and case study presentation

Ralf Klinge

RAIL POWER SYSTEMS (RPS)

Director International Sales
and Business Development

09:30 – 09:45 Presentation 03

System level analysis of traction system for High Speed Railway programme in Poland – real case study from Polish High Speed Railway Programme

Ph.D. Davor Vujatovic

Metroprojekt sp.z o.o., Vanda engineering ltd,
City University of London,
City University of Zagreb
<remote>

09:45 – 10:15 Presentation 04

Sitras Sidytrac based traction system analysis, competence and reference examples from Siemens Mobility

Christoph Hinze

SIEMENS MOBILITY GmbH System Engineer
for Traction Power Systems & PLM for Sitras Sidytrac

10:15 – 10:30 Presentation 05

Thermal analysis of Overhead Catenary System – case study from High speed Railway Project in Poland

Ph.D. Włodzimierz Jefimowski

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

10:30

COFFEE BREAK / NETWORKING

11:00

11:00

12:45

SESSION WITH PRESENTATIONS 02

Overhead Contact System [OCS] – design, construction and operation of over head contact systems dedicated for high speed railway use

MODERATOR 1:

D.Sc. Ph.D. Tadeusz Maciołek, prof. PW

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering Traction and Electrical Power Engineering Economy Division

11:00 – 11:15 Presentation 01

Made in Poland Overhead Contact System for High Speed Railway and worldwide experience in OCS design, installation and maintenance

dr Zweig Bernd Wolfgang

RAIL POWER SYSTEMS (RPS)

Catenary and OCS Installation Technology

Expert in RPS

Ralf Mauren

RAIL POWER SYSTEMS (RPS)

Sales International and Business Development in RPS

11:15 – 11:30 Presentation 02

Electrification of the E75 Elk-Suwałki line to the Country boarder in 2×25 kV 50 Hz AC based power supply system, traction network type YBz95-CMg150

Artur Wachtarczyk

Art ENERGY

Overhead Contact Line Designer, Owner

11:30 – 11:45 Presentation 03

*YBz-HSR type overhead contact line,
polish solution designed for High Speed
Railway use*

Łukasz Iwański

METROPROJEKT Sp. z o.o. / IWN Sp. z o.o.
Head of Overhead Contact Line Design Department

11:45 – 12:00 Presentation 04

*Overhead Contact System for High Speed Railways –
Siemens Mobility products and solutions portfolio*

Adam Roguski

SIEMENS MOBILITY
Sales Business Development Manager,
Rail Electrification

12:00 – 12:15 Presentation 05

*Numerous advantages of rigid catenary system
for tunnels, depots and stations*

Piotr Sikorski

CORAIL Sp. z o.o.
Managing Director

12:15 – 12:30 Presentation 06

*Remote, digital diagnostic of current collectors
on PKP PLK S.A. railway lines*

Maciej Szaraniec

PKP Polskie Linie Kolejowe S.A. (PKP-PLK S.A.)
Expert for optimization of traction power supply

12:30 – 12:45 Presentation 07

Catenary networks for DC and AC power supply systems – design and operational problems

D.Sc. Ph.D. Tadeusz Maciołek, prof. PW

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

12:45

LUNCH BREAK / NETWORKING

13:30

SESSION WITH PRESENTATIONS 03

TRACTION POWER SUPPLY [TPS] – design, construction and operation of AC and DC traction power supply infrastructure

13:30

15:15

**Session under general patronate
of ENPROM Sp. z o.o.**

MODERATOR 1:

Ph.D. Anatolii Nikitenko

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

MODERATOR 2:

Tomasz Jakubowski

ENPROM Sp. z o.o.
Member of the Management Board

13:30 – 13:45 Presentation 01

*Control solution for autotransformer cabin
and disconnectors in 2×25 kV system*

Zbigniew Wrzesiński

SESTO Sp. z o.o.

Deputy Director for Electro Energetical Design Department

13:45-14:00 Presentation 02

*Design of Traction Power Substations with interface
to the National Grid System for High Speed Railway*

Stan Gnap

HITACHI ENERGY SWITZERLAND Ltd

Business Development Director

14:00 – 14:15 Presentation 03

*Traction Power Supply implementation status
in Rail Baltica RB Rail*

Antanas Snirpunas

RB RAIL AS, RAIL BALTICA

Power Supply Team Leader

14:15 – 14:30 Presentation 04

*Implementation and operation of a DC 3 kV / AC 25 kV
OCS in Belgium and earthing & bonding system
for mixed system in Riga Central Station*

Ir. Paul Tobback

TUC RAIL, BRUSSELS

Expert Competence Centre Energy & Electrification

14:30 – 14:45 Presentation 05

Selected solutions of 400 and 220 kV switching stations in 2×25 kV system traction substations

Maciej Kolecki

ENPROM Sp. z o.o.
Project Engineer
Substation Design Department

Jacek Neumer

ENPROM Sp. z o.o.
Junior Project Manager
Substation Design Department

14:45 – 15:00 Presentation 06

Ecological solutions from the ECONIQ portfolio. Hitachi Energy's commitment to an energy future and a CO2 neutral balance

Paweł Fukiet

HITACHI ENERGY
Market Manager Portfolio High Voltage

15:00 – 15:15 Presentation 07

Power supply of non-traction needs from 25 kV 50 Hz catenary

Ph.D. Maciej Krocak

Centralny Port Komunikacyjny
Expert, United Kingdom
<remote>

15:15

15:45

COFFEE BREAK / NETWORKING

HINT:

During your coffee break, you can watch a biographical movie about Józef Podoski
120th anniversary of prof. Jan Józef Podoski birthday

15:45

SESSION WITH PRESENTATIONS 04

17:30

Energy efficiency, energy savings and renewable energy sources in electrified transport – part 01

Session under general patronate of Association of Polish Electrical Engineers (SEP)

MODERATOR 1:

D.Sc. Ph.D. Piotr Biczal

WARSAW UNIVERSITY OF TECHNOLOGY

Faculty of Electrical Engineering

Institute of the Theory of Electrical Engineering

Measurement and Information Systems/PGE

Energetyka Kolejowa

15:45 – 16:00 Presentation 01

Optimization of the use of traction energy in Metro Warszawskie

Marek Sokołowski

METRO WARSZAWSKIE Sp. z o.o.

Member of the Management Board

16:00 – 16:15 Presentation 02

Ecodriving – prepare for implementation in Koleje Wielkopolskie

Sławomir Wiśniewski

KOLEJE WIELKOPOLSKIE Sp. z o.o.

Director of the technical department

Szymon Wiśniewski

KOLEJE WIELKOPOLSKIE Sp. z o.o.

Instructor Driver

16:15 – 16:30 Presentation 03

Energy storage – a key function in future power supply of critical infrastructure

Maciej Morgen

SIEMENS ENERGY

Service Sales Manager

16:30 – 16:45 Presentation 04

Digitalization of resources as a way to energy effectiveness

Jarosław Kurek

PKP Polskie Linie Kolejowe S.A. (PKP-PLK S.A.)

Chairman of Power Economy Division

16:45 – 17:00 Presentation 05

Grid Automation Solutions portfolio

Jakub Papiernik

HITACHI ENERGY

Head of Grid Automation Solutions

17:00 – 17:15 Presentation 06

Energy consumption and energy costs optimization in railway transport

Paweł Majka

PGE ENERGETYKA KOLEJOWA S.A.

Director in the Electricity Distribution Department

17:15 – 17:30 Presentation 07

Energy storage devices as important tools for electrical power distributor system operators

D.Sc. Ph.D. Piotr Biczal

WARSAW UNIVERSITY OF TECHNOLOGY

Faculty of Electrical Engineering,

Institute of the Theory of Electrical Engineering,

Measurement and Information Systems/PGE

Energetyka Kolejowa

17:30

COFFEE BREAK / NETWORKING

18:00

18:00

SESSION WITH PRESENTATIONS 05

Energy efficiency, energy savings and renewable energy sources in electrified transport – part 02

19:45

**Panel under general patronate of
Association of Polish Electrical Engineers
(SEP)**

MODERATOR 1:

Piotr Zagozdon

SZYBKĄ KOLEJ MIEJSKA Sp. z o.o. (SKM Warszawa)

Main specialist in Technical Department,

STOWARZYSZENIE ELEKTRYKÓW POLSKICH (SEP)

Head of the Electrical Traction Section SEP

18:00 – 18:15 Presentation 01

Optimization of traction energy consumption by using dynamic recommendations in the SENSUM system

Piotr Stefańczyk

REDS S.A.

18:15 – 18:30 Presentation 02

Innovative solutions in area of energy saving

Adam Załęski

PKP Polskie Linie Kolejowe S.A. (PKP-PLK S.A.),

Main expert for optimization of electrical energy consumption

Division of power economy

18:30 – 18:45 Presentation 03

Silicon carbide SiC elements in new generation energy saving static converters and inverters

Dawid Zięba

MEDCOM Sp. z o.o.

Power Electronics Engineer

18:45 – 19:00 Presentation 04

Hybrid traction vehicles on the railways of the Republic of Croatia

Prof. Mladen Niksić

UNIVERSITY OF ZAGREB

19:00 – 19:15 Presentation 05

Power quality solutions portfolio in Hitachi Energy

Piotr Obrzut

HITACHI ENERGY

Head of Sales Power Quality Solutions

19:15 – 19:30 Presentation 06

Automatic Train Operation with optimization of traction energy consumption in new 16EV vehicles manufactured by Skoda for the Riga agglomeration railway

Stanislav Frolik

ŠKODA GROUP, ŠKODA DIGITAL s.r.o.
SW Developer

19:30 – 19:45 Presentation 07

The impact of modernization of the WKD power supply system and recuperation on the costs of traction energy consumption and analysis of electricity parameters

Andrzej Tarnowski

WARSZAWSKA KOLEJ DOJAZDOWA Sp. z o.o.
Deputy Head of the Infrastructure Department

20:00

—
last
guests

CASUAL FRIENDS DINNER / NETWORKING

Event Location:
RISTORANTE SEMOLINO HALA KOSZYKI
Hala Koszyki; Koszykowa 63
00-667 Warsaw
<https://semolino.pl/>

June 19, 2024 • WEDNESDAY

Faculty of Electrical Engineering,
Warsaw University of Technology
Plac Politechniki 1, 00-661 Warsaw
Faculty of Electrical Engineering
Building Stara Kotłownia hall 4/5

09:00

10:00

**INSTITUTE OF ELECTRICAL POWER
ENGINEERING INAUGURAL SESSION**
PANEL WITH PRESENTATIONS

MODERATOR 1:

Ph.D. Wawrzyniec Wychowański

SITK RP NATIONAL BOARD

General Secretary

09:00 – 09:15 Presentation 01

Presentation of IEI

D.Sc. Ph. D. Sylwester Robak, prof PW

WARSAW UNIVERSITY OF TECHNOLOGY

Director Institute of Electrical Power Engineering

09:15 – 09:30 Presentation 02

*Research and applied projects in electrified transport
worked out by Traction and Electrical Power
Engineering Economy Division*

prof. D.Sc. Ph.D. Adam Szeląg

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering Traction

and Electrical Power Engineering Economy Division

09:30 – 09:45 Presentation 03

Innovations patented by Traction and Electrical Power Engineering Economy Division

D.Sc. Ph.D. Tadeusz Maciołek, prof PW

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

09:45 – 10:00 Presentation 04

Postgraduate-study in electrical power engineering for transport

D.Sc. Ph.D. Tadeusz Maciołek, prof. PW

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

10:00

COFFEE BREAK / NETWORKING

10:30

10:30

SESSION WITH PRESENTATIONS 01

11:30

RENEWABLE ENERGY SOURCES [RES]
*Renewable energy sources based solutions
for electrified transport*

MODERATOR 1:

prof. D.Sc. Ph.D. Adam Szelaq

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

10:30 – 10:45 Presentation 01

Integration of mobile electricity storage with renewable energy sources in urban transport hubs

Ph.D. Krzysztof Zagrajek

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

10:45 – 11:00 Presentation 02

Vehicle parking time forecast for planning the operation of a fleet of electric vehicles in terms of their charging

Ph.D. Marcin Kopyt

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering

D.Sc. Ph.D. Dariusz Baczyński, prof. PW

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Electrical Power Engineering

Tomasz Gluczyński

GLOBEMA Sp. z o.o. Director
Smart Data Solutions Dept.

11:00 – 11:15 Presentation 03

Upscaling 1.5 kV advanced charging system to 3 kV traction grid requirements

prof. D.Sc. Ph.D. Jacek Rąbkowski

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Control and Industrial Electronics

Ph.D. Rafał Kopacz

WARSAW UNIVERSITY OF TECHNOLOGY
Institute of Control and Industrial Electronics

11:15 – 11:30 Presentation 04

Determination of parameters of energy storage with a supercapacitor

D.Sc. Ph.D. Mirosław Lewandowski, prof. PW

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering Traction and Electrical Power Engineering Economy Division

11:30

SESSION WITH PRESENTATIONS 02

13:00

AC/DC Interfaces and safety and emc issues in railway transport

MODERATOR 1:

Ph.D. Włodzimierz Jefimowski

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering Traction and Electrical Power Engineering Economy Division

11:30 – 11:45 Presentation 01

Operational oscilloscope measurements of currents and voltages of a traction converter with induction motors on the example of SKM Warszawa

Piotr Zagozdon

SZYBKA KOLEJ MIEJSKA Sp. z o.o. (SKM Warszawa)

Main specialist in Technical Department

STOWARZYSZENIE ELEKTRYKÓW POLSKICH (SEP)

Head of the Electrical Traction Section SEP

11:45 – 12:00 Presentation 02

Mutual interactions DC and AC power supply traction systems

M.Sc. Włodzimierz Kruczek

RAILWAY INSTITUTE

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

RAILWAY INSTITUTE

Vice-Director of Railway Institute,
Head of Interoperability Division,
Chairman ISAC-Railway

12:00 – 12:15 Presentation 03

Separation of earth electrodes connected with DC and AC electric traction from earthing of public grid

Zygmunt Kulhawik

KOLEN

Chairman of the Management Board

Dariusz Pieńkowski

KOLEN

Vice President

12:15 – 12:30 Presentation 04

Safety analysis related to the implementation of railway signals in nonincandescent technology for the network speed of 160 km/h

Sławomir Wesolek

APS ENERGIA

12:30 – 12:45 Presentation 05

Energy Quality measurements in 3 kV DC traction systems – Ukrainian case

Ph.D. Anatolii Nikitenko

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering Traction
and Electrical Power Engineering Economy Division

12:45 – 13:00 Presentation 06

Real-Time Simulator: An Advanced Tool in Electrical Power Engineering Research

M.Sc. Wiktor Wróblewski

D.Sc. Ph.D. Ryszard Kowalik

prof. PW, Ph.D. Marcin Januszewski

Ph.D. Karol Kurek

WARSAW UNIVERSITY OF TECHNOLOGY

Institute of Electrical Power Engineering

13:00

LUNCH BREAK / NETWORKING

13:30

13:30

**TECHNICAL TOUR VIA INSTITUTE
OF ELECTRICAL POWER ENGINEERING
LABORATORIES**

15:00

Presentation of research and didactic opportunity and experience in electrical power engineering and electrified transport related solutions

**MET2024 Warsaw
the end**

NOTATKI

A grid of 20 columns and 30 rows of small dots, intended for taking notes.









Modern Electric
Traction **2024**

15th International Scientific
and Technical Conference

Modern Electric Traction 2024

*Rationalization of Energy Consumption
in Electrified Transport*

17-19.06.2024
Warsaw



Polish Association of Transport
Engineers & Technicians
National Board



Warsaw University
of Technology