

WELCOME MESSAGE

It is our great pleasure to invite you to the Asia-Pacific Railway Innovations Forum which will take place at the Asian Development Bank (ADB) Headquarters in Manila, Philippines.

The Asia-Pacific Railway Innovations Forum, jointly organized by UIC and ADB (Asian Development Bank), will discuss the future of railway systems in developing Asia and the Pacific with respect to the new and disruptive technologies of the Fourth Industrial or "Digital" Revolution.

The level of railway technology varies greatly throughout developing Asia and the Pacific, but is often ancient in terms of railway infrastructures, systems, and rolling stock. New technologies in the digital sphere, from control systems to data gathering, create an immense opportunity, but at the same time the agony of choice as countries must sort and prioritize which technologies are the most appropriate in their specific, national case.

This forum aims to bring together key decision makers, members of the railway industry, specialists and experts to discuss current solutions, alternatives and future trends in applied rail sector technologies.

We look forward to seeing you in Manila from 21 to 24 May 2019.



ASIA-PACIFIC Railway Innovations Forum

PROGRAMME

БРОСЪВАННЕ

VENUE

ADB HQ
6 ADB Ave, Wack-Wack Village, Mandaluyong
1550 Metro Manila, Philippines

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21-24 May 2019
Manila, Philippines



TUESDAY, 21 MAY 2019

Digital Revolution: Big Data in Railway Asset Management and Private Sector engagement

8:30 **REGISTRATION**

9:00 **OPENING REMARKS**

- ▶ **Mr. Bambang Susantono**, Vice-President for Knowledge Management, ADB (tbc)
- ▶ **Mr. Jean-Pierre Loubinoux**, Director General, UIC

KEYNOTE SESSION

- 9:30 ▶ **Keynote Speech: Railway Innovations and Future Developments**
Mr. Jean-Pierre Loubinoux, Director General, UIC

- 10:00 ▶ **Keynote Panel: Digital technology driven changes in the railway market**
DMC representatives from ADB's different regions (SA, SE, EA CW)

10:30 **COFFEE BREAK**

11:00 **SESSION 1: RAILWAY ASSET MANAGEMENT PRINCIPLES AND LIFE-CYCLE STRATEGIES**

Modern Asset Management strategies for railways require a Life-cycle approach with a balance between maintenance and renewal, to be based on principles, common definitions, and data processing.

Chairman: Mr. Ravi Ravitharan, Director, Institute of Railway Technology (IRT), Australia

- ▶ **Maintenance Strategies from corrective, preventive and condition-based to predictive maintenance**
Mr. Remy Jacquier, General Manager, Oxand, France
- ▶ **Asset Management – ISO55000 application guideline for railways infrastructure organizations**
Mr. Teodor Gradinariu, Senior Technical Advisor Rail System Dpt., UIC
- ▶ **Rail Topo Model and Asset Hierarchy for the LCC improvement**
Mr. Airy Magnien, Senior Technical Advisor, UIC

QUESTIONS & ANSWERS

12:30 **LUNCH**

14:00 **SESSION 2: DIGITAL SOLUTIONS TO LEAD AND STEER RAILWAY DESIGN AND O&M STRATEGIES**

The technical developments of data processing and storage have opened a lot of new opportunities, in the design and construction process of rail infrastructure projects and the way to efficiently and sustainably operate and maintain railways.

Chairman: Mr. Francis Bedel, Chief Digital Officer, UIC

- ▶ **Current Trends and Best Practices**
Mr. Francis Bedel, Chief Digital Officer, UIC
- ▶ **Big Data, BIM**
ADB Consultant
- ▶ **Track Data Analytics and Visualisation**
Mr. Ravi Ravitharan, Director, IRT, Australia
- ▶ **Introducing Digital Technologies into Track Maintenance Machinery**
Dr. Florian Auer, Director of Technology and Innovation & Mr. Krzysztof Wilczek, Head of Track Analytics, Plasser & Theurer, Austria
- ▶ **Application of Big Data in the Railway Operation and Management in China**
Mrs. Li Ping, Senior Expert, CARS, China

QUESTIONS & ANSWERS

PROGRAMME

15:30 **COFFEE BREAK**

16:00 **SESSION 3: OPPORTUNITIES AND RISKS RELATED TO THE DIGITAL REVOLUTION AND NEW PASSENGER INTERFACES**

This session shall highlight a couple of the most compelling opportunities, critical risks and pressing questions of new digital solutions in the railway sector.

Chairman: Mr. Teodor Gradinariu, Senior Technical Advisor Rail System Dpt., UIC

- ▶ **Smart Railway Stations in Smart Cities**
Mr. Marc Guigon, Director of the Passenger Dpt, UIC
- ▶ **Smart Ticketing solutions**
Ms. Naoko Makita, Assistant Manager, JR East, Japan
- ▶ **Smart Ticketing solutions**
Mr. Marc Guigon, Director of the Passenger Dpt, UIC
- ▶ **Cybersecurity solution for current and future threats**
Mr. Teodor Gradinariu, Senior Technical Advisor Rail System Dpt., UIC

QUESTIONS & ANSWERS

WEDNESDAY, 22 MAY 2019

Future Trends: Railway Signaling & Train Control, Regional Railway Initiatives, Smart Stations, and Railway Safety

9:00 **SESSION 4: SIGNALLING & TRAIN CONTROL SYSTEMS SOLUTIONS – PART 1**

With a variety of different signalling and train control systems in place, each for different railway systems and operation needs, different developments for driverless operations, and technical developments for future 5G or satellite-based systems, these two sessions shall give an overview of different systems, options and near-future system standards.

Chairman: Mr. Tom Sargant, Representative of UIC Pacific, UIC

- ▶ **Challenges for Signalling & Control**
Mr. Alexey Ozerov, NIIAS, Russia
- ▶ **Integrated Solution of Train Control and Traffic Control System for High Speed Railway in China**
Mr. ZHANG Qi, Senior Researcher, CARS, China
- ▶ **Innovative Communications-Based Train Control for Remote and Regional Rail Lines**
Mr. Derel Wust, Managing Director, 4Tel, Australia
- ▶ **ERTMS**
Mr. Teodor Gradinariu, Senior Technical Advisor Rail System Dpt., UIC

QUESTIONS & ANSWERS

10:15 **COFFEE BREAK**

10:45 **SESSION 5: SIGNALLING & TRAIN CONTROL SYSTEMS SOLUTIONS – PART 2**

Chairman: Mr. Tom Sargant, Representative of UIC Pacific, UIC

- ▶ **Satellite-based alternative for Low Cost-Low Traffic Lines – SATLOC**
Mr. Teodor Gradinariu, Senior Technical Advisor Rail System Dpt., UIC
- ▶ **Automatic Train Operation (ATO) Solution for Suburban Railway**
Mr. YIN Xunzheng, Senior Researcher, CARS, China
- ▶ **Automatic Train Operations in Railways**
Mr. Frank Zschoche, Managing Partner, Civity, Germany

QUESTIONS & ANSWERS

12:00 **LUNCH**

13:30 **SESSION 6: FINANCING MODELS AND PRIVATE SECTOR ENGAGEMENT MODELS FOR DMCS**

Outsourcing strategies of O&M services, Regulatory Bodies, critical inhouse expertise to ensure a Life-Cycle Approach, Incentive Schemes and Performance Indicators, and general PPP strategies for the massive investment plans of Asia's railway sector.

Chairman: ADB

- ▶ **Suitable PPP models for DMCS**
- ▶ **Automatic Train Operations in railways – a critical look at different use cases**
- ▶ **Performance and Incentive schemes to manage outsourcing strategies and to ensure Life-cycle considerations, (...)**
- ▶ **Experience with Land Capture Value models, (...)**
- ▶ **Experience with Real Estate Business Development models, (e.g. MTR)**

15:00 **COFFEE BREAK**

15:30 **SESSION 7: REGIONAL RAILWAY INITIATIVES WITHIN TRANS-ASIAN RAIL NETWORK PROJECTS**

With different regional and trans Asian railway initiatives under way, this panel discussions shall give an overview of aligned strategies, shall highlight potential synergies, areas of increasing cooperation needs, and obstacles.

Chairman: Mr. Ko Sakamoto, Senior Transport Specialist, Central and West Asia Department, ADB

- ▶ **BRI – The Belt and Road Initiative**
Mr. Guo Chunjiang, Senior Engineer, Dpt. of Reform and Development, CR, China
- ▶ **Trans-Asian Railway Network (UNESCAP) (tbc)**
- ▶ **ECO (tbc)**
- ▶ **Singapore Kunming Rail Link (ASEAN) (tbc)**
- ▶ **ADB's Regional Railway network Initiatives (CAREC), (SASEC), (GMR)**
- ▶ **India, etc. (tbc)**

ROUNDTABLE/PANEL SESSION

17:00 **CLOSING PANEL**

- ▶ **UIC**
- ▶ **ADB**

19:00 Official Dinner hosted by Philippine National Railways (PNR) at the Edsa Shangri-La hotel, Manila