DAY 1 TUESDAY 2 OCTOBER 12.00 pm – 12.50 pm

SMART DOLLY

Lateral control of an A-double combination considering different measurement signals and dolly steering configurations
Maliheh Sadeghi Kati1, Jonas Fredriksson1, Bengt Jacobson1, Leo Laine2
1Chalmers University of Technology, 2Volvo Group Trucks Technology

Feasibility study of a steered and powered dolly for an A-double high capacity vehicle
A.G.P. Parfant1, R.M.S.C. Wouters2, I.J.M. Besselink2
1Altran Netherlands, 2Eindhoven University of Technology

DAY 1 TUESDAY 2 OCTOBER 12.00 pm – 12.50 pm

DRIVER INVOLVED SAFETY STRATEGIES - 1

Integrating safety technology and management practice for improved fleet safety
John Woodroffe
Woodroffe Dynamics Ltd.

The face of the project - Regulating for soft and hard skills in driver training to support the implementation of high performance vehicles.
A. Efron1, G. Corvalan2
1BrAle Consulting/EMaBi, 2EMabi, Government San Luis

DAY 1 TUESDAY 2 OCTOBER 12.00 pm – 12.50 pm

PAVEMENT AND BRIDGE LOADING

Characterizing in-service truck loads for improved pavement and bridge performance: experiences from Manitoba, Canada
J.D. Regehr, B. Algohi, A. Mufti, A. Shalaby
University of Manitoba

Pavement and bridge impact assessment of vehicles within project FALCON
M.G. Arroyo Contreras1, Franziska Schmidt2, Carl van Geem3, E. van Kerkhof3, Bernard Jacob2
1Autonomous University of Queretaro, 2IFSTTAR, 3Belgian Road Research Center

DAY 1 TUESDAY 2 OCTOBER 2.00 pm– 3.40 pm

ROADS FOSTERING MULTIMODAL TRANSPORT

Understanding modal choice: a review
I. Vierth1, S. Lindgren1, A. Lobig2, P. Niérat3, E. Bogers4, I. Davidenko5, A. Burgess6, S. van de Ree6
1VTI, 2DLR, 3IFSTTAR, 4HAN University of Applied Sciences, 5TNO, 6Panteia

FALCON II: Input for a European PBS definition: review of vehicle legislations and infrastructure design criteria.
Franziska Schmidt1, Sogol Kharrazi2, Sigurdur Erlingsson2, Carl van Geem3, Xavier Cocu3, Bernard Jacob1
1IFSTTAR, 2VTI, 3Belgian Road Research Center

C. de Saxe1, K. Kural2, S. Kharrazi1, F. Schmidt2, C. van Geem5, R. Berman1, John Woodrooffe6, D. Cebon7
1CSIR, 2HAN University of Applied Sciences, 3VTI, 4IFSTTAR, 5Belgian Road Research Institute, 6Woodroffe Dynamics Ltd, 7University of Cambridge

FALCON IV: Validation of smart infrastructure access policy.
K. Kural1, F. Schmidt2, S. Erlingsson3, C. van Geem4, I. Vierth1, D. Cebon5, A. Lobig6, G. Liedtke6
1HAN University of Applied Sciences, 2IFSTTAR, 3VTI, 4Belgian Road Research Center, 5University of Cambridge, 6DLR
DAY 1 TUESDAY 2 OCTOBER 2.00 pm – 3.40 pm

ROADMAPS FOR GREENER TRANSPORT

Aerodynamic and flexible trucks for next generation of long distance road transport (AEROFLEX).
B. Kraaijenhagen¹, C. v.d. Zweep², A. Lischke³, J. Engasser¹, P. Elofsson⁴, M. Ölback⁵, A. Frexas⁶, M. Tobar⁶, G. Koornnef⁷
¹MAN Truck &Bus AG, ²Uniresearch, ³DLR, ⁴Scania, ⁵Volvo Group, ⁶IDIADA, ⁷TNO

The commercial vehicles of the future: an integrated approach for sustainable truck operations.
Tim Breemersch¹, Lars Akkermans¹, Marc Billiet²
¹Transport & Mobility Leuven, ²International Road Transport Union

Swedish roadmap for electric road systems.
M. Lindgren, J. Pettersson, A. Berndtsson
Swedish Transport Administration

Professionalized road freight operators for truck fleet energy management.
Sophie Punte, Boyong Wang, Su Li, Bonne Goedhart, Chris Douglas
Smart Freight Center

DAY 1 TUESDAY 2 OCTOBER 2.00 pm – 3.40 pm

PERFORMANCE ASSESSMENT OF HIGH PRODUCTIVITY VEHICLES

Duo Trailer an innovative transport solution co-optimizing multi vehicle combinations.
Lennart Cider¹, Lena Larsson¹, Heléne Jarlsson²
¹Volvo GTT, ²ÅF Industry AB

Investigation of a 9-axle configuration for log-hauling in British Columbia.
Séamus Parker
FPIInnovations

Generic framework for assessment and extraction of envelopes for long combination vehicles.
Krshna Kashampur, Bengt Jacobson, Manjurul Islam
University of Chalmers

DAY 1 TUESDAY 2 OCTOBER 4.10 pm – 5.25 pm

UNEVEN ROAD VEHICLE PERFORMANCE

Rolling road.
H. Bramer, D. Aalderink, D. Verbeek
VDL-Weweler

A mechanistic approach toward estimating the roughness-induced rolling resistance and fuel consumption for articulated trucks.
Imen Zaabar, Karim Chatti, Nizar Lajnef
Michigan State University

DAY 1 TUESDAY 2 OCTOBER 4.10 pm – 5.25 pm

SAFETY OF HIGH PRODUCTIVITY VEHICLES

Heavy vehicle safety performance.
J. Deiss¹, R. Berman², P. Nordengen², C. de Saxe², A. Steenkamp², F. Kienhöfer¹
¹University of the Witwatersrand, ²CSIR

Hyperformance: advanced PBS performance prediction.
R. Berman², P. Nordengen¹, B. Rosman³, B. van Niekerk³
²CSIR, ³University of the Witwatersrand

A new class of ventilated disc brakes.
Frank Kienhöfer, Michael Atkins, Tongbeum Kim
University of the Witwatersrand
**DAY 1 TUESDAY 2 OCTOBER 4.10 pm – 5.25 pm**

**COMPLIANCE AND ENFORCEMENT**

- **Implementation of Weigh-In-Motion systems for direct enforcement of overloading.**
  H. van Loo¹, C. Oosterman²
  ¹Corner Stone International, ²NMI Certin

- **Perceptions of the road transport management system (RTMS): promoting voluntary certification.**
  A. Kamdar³, F. Kienhöfer³, B. Emwanu³, G. Heyns², P. Nordengen³
  ¹University of the Witwatersrand, ²University of Johannesburg, ³CSIR, ⁴KDG Logistics

- **Re-engineering road networks through on-board mass (OBM) systems**
  Chris Konditsiotis, Gavin Hill
  Transport Certification Australia

**DAY 2 WEDNESDAY 3 OCTOBER 8.30 am – 9.45 am**

**TRUCK PLATOONING AND HPV'S: OVERCOMING THE BOUNDARIES OF THE INFRASTRUCTURE**

- **PBS for connected and automated vehicles.**
  John De Pont
  TERNZ Ltd.

- **Effect of platooning on the structural reliability of bridges**
  R.M.L. Nelisse¹, A.H.J.M. Vervuurt¹, D.G. Schaafsma²
  ¹TNO, ²Dept. of Waterways and Public Works, Ministry of Infrastructure and Water Management

- **ITS applications for higher productivity of road freight transport.**
  R. Aronietis, T. Voegel
  International Transport Forum at the OECD

**DAY 2 WEDNESDAY 3 OCTOBER 8.30 am – 9.45 am**

**DRIVER INVOLVED SAFETY STRATEGIES - 2**

- **FAST DASH: a program to evaluate promising safety technologies for truck and bus operations.**
  Richard J. Hanowski, Andrew Krum
  Center for Truck and Bus Studies, Virginia Tech Transportation Institute

- **Trucks that refuse to crash: new objectives for self-driving vehicles, the role of artificial intelligence.**
  John Woodrooffe
  Woodrooffe Dynamics Ltd.

- **Closed loop performance of heavy goods vehicles.**
  Joop Pauwelussen
  HAN University of Applied Sciences

**DAY 2 WEDNESDAY 3 OCTOBER 8.30 am – 9.45 am**

**THE COST OF ROAD USE BY HEAVY VEHICLES**

- **Methodology for estimating the road wear costs of heavy vehicles on a road network.**
  L. Kemp, A.J. Steenkamp, P. Nordengen
  CSIR

- **Relationship between freight traffic and management/maintenance costs.**
  Henri Palm³, Marc van den Elzen³, Martin Kraan³
  ³DAT.Mobility, ⁴Goudappel Coffeng, ⁵Dept. Water management & Public Works/TRAIMCO

- **Reduced pavement service life - causes and costs.**
  J. Granlund
  WSP Sverige AB
**Day 2 Wednesday 3 October 2.00 pm – 3.40 pm**

**Public Policies in Freight Transport**

**Characteristics of road freight transport policy in The Netherlands.**
Joris Cornelissen
Dept. of Waterways and Public Works, Ministry of Infrastructure and Water Management

**Impact of disruptive innovations on road transport strategy.**
T.M. Chen
TNO

**A policy framework for implementation of appropriate regulatory tools aimed at promoting utilization of smart technology in the regulation of heavy vehicles: the case of eastern and southern Africa region.**
S.G. Khumalo, Etiyel Chibira
Cross-Border Road Transport Agency

**Urban and Regional Vitality**

**Infrastructure solutions for increased efficiency and productivity of construction material transports in cities.**
A. Treiber, P. Bark
TFK - Transport Research Institute Sweden

**Zero emission city logistics: the possibilities of battery electric freight vehicles - now and in the future.**
H.J. Quak, N. Nesterova
TNO

**FLUXNET: Multimodal infrastructure integrated with land use, freight and logistics.**
Robert Broesi¹, Tertius Hanekamp², Jos Arts³
¹Must, ²TEMAH, ³University of Groningen

**Zero emission city logistics: the possibilities of battery electric freight vehicles - now and in the future.**
H.J. Quak, N. Nesterova
TNO

**Will automatic driving light electric freight vehicles be the future solution for urban Transport As A Service.**
Frank Rieck¹, Susanne Balm², Constant Staai³, Roeland Hogt³
¹Rotterdam University of Applied Sciences, ²Amsterdam University of Applied Sciences, ³Regional Education Center Noorderpoort

**Intelligent Access**

**Estonian Velub system for more efficient and greener transport. Velub system is a small part of the much bigger, theoretical MVMC system.**
Taavi Tõnts, Meelis Toome, Mait Klein
Estonian Road Administration (ERA)

**Regulation on the road in the digital age - challenges and opportunities.**
C. Walker, A. Moulis
University of New South Wales

**In search of a Dutch logistic core road network**
Jan Top
Dept. of Waterways and Public Works, Ministry of Infrastructure and Water Management

**Intelligent road access & weight control system - first application for high capacity transport vehicles**
Sten Wandel¹, Thomas Asp²
¹University of Lund, ²Swedish Transport Administration

**Aerodynamics**

**Assessing the fuel savings of aerodynamic trailer devices in realistic conditions.**
R. Veldhuizen, J.P. van der Krieke, G.M.R. van Raemdonck
WABCO

**Assessment of innovation concepts for Truck-semi trailer combinations within the TRANSFORMERS project.**
S. Wilkins¹, G. Hommen¹, S. van Zyl¹, E. van Eijk¹, A. Balau¹, G.J. Koornneef¹, R. Baert¹, B. Hillbrand¹, S. Wagner³, F. Jonkers³, C. Maillet¹, P. Adams³
¹TNQ, ²Virtual Vehicle, ³Fraunhofer-IVI, ⁴DAF Trucks, ⁵Volvo Group Trucks Technology
DAY 2 WEDNESDAY 3 OCTOBER 4.10 pm – 5.00 pm

URBAN FREIGHT VEHICLES

Design of urban freight vehicles to maximise capacity.
Chris Eddy, David Cebon
University of Cambridge

The evolution of the performance based standards urban rigid truck.
Ken Cowell¹, Kim Hassall²
¹Heavy Vehicle Industry Australia, ²University of Melbourne

DAY 2 WEDNESDAY 3 OCTOBER 4.10 pm – 5.00 pm

MANAGING THE PERFORMANCE BASED STANDARDS (PBS) PROCESS

Type vehicle combinations – HCT Sweden 25.25 to 34 meters.
Lena Larsson, Emil Pettersson, Nikolas Fröjd
Volvo GTT

Leveraging cloud computing for heavy vehicle optimization and in-service performance assessment.
C. Lopez, M. Coleman
Tiger Spider Pty Ltd.

DAY 3 THURSDAY 4 OCTOBER 8.30 am – 9.45 am

TRUCK AUTOMATION AND PLATOONING DEPLOYMENT

Truck platooning: an update after the European Truck Platooning Challenge.
Arjan van Vliet¹, Robbert Jansen², Joris Cornelissen³
¹The Netherlands National Vehicle Authority (RDW), ²TNO, ³Dept. of Waterways and Public Works, Ministry of Infrastructure and Water Management

Truck Platooning: expected benefits and implementation conditions at highways.
B. Jacob, O. Arbeit de Chalendar
IFSTTAR

Safety assessment of platooning trucks - streetwise
O. op den Camp, R.Wouters, J.-P. Paardekooper
TNO

DAY 3 THURSDAY 4 OCTOBER 8.30 am – 9.45 am

SOCIOECONOMIC CHALLENGES OF HIGH PRODUCTIVITY VEHICLES

High Productivity Freight Vehicles: Challenges faced by local government road managers.
R. Di Cristoforo
Advantia Transport Consulting Pty, Ltd.

Comparison of noise emission of HCT and classic vehicle combinations for timber transportation in Sweden.
Ulf Sandberg¹, Sogol Kharrazi², Piotr Mioduszewski²
¹VTI, ²Gdansk University of Technology

OECD/ITF study on high capacity transport (HCT) – final report.
Jerker Sjögren,
Jesko Konsult

DAY 3 THURSDAY 4 OCTOBER 8.30 am – 9.45 am

TYRE PERFORMANCE AND DURABILITY

On tyre blowouts and overheating brakes towards safer trucks
J. Subel, F.W. Kienhöfer, J.H. Lange
University of the Witwatersrand

A framework for heavy vehicle tyre cornering performance assessment and classification within the Performance Based Standards scheme
Marcus Coleman
Tiger Spider Pty Ltd

Empirical estimation of heavy goods vehicle tyre wear.
J. Lepine, S. Burgess, D. Cebon
University of Cambridge
DAY 3 THURSDAY 4 OCTOBER 2.00 pm – 3.40 pm

ELECTRIFICATION AND HYBRIDIZATION

Designing and demonstrating a system for efficient and sustainable road freight based on dynamic power supply.
P. Akkerman, H. Gruenjes, M. Lehmann
Siemens Mobility

Ultra-capacitor based kinetic energy recovery system for heavy goods vehicles
D. Ainalis¹, P. Achurra-Gonzalez¹, A. Gaudin², J. Garcia de la Cruz², P. Angeloudis³, W. Ochieng³, M. Stettler¹
¹Imperial College London, ²ENSTA Paris Tech & National University of Singapore, ³Universidad Politécnica Madrid

Architectural proposal for low-cost low-emission high productivity freight vehicles with electric traction systems.
J. Allwright¹, A. Kulkarni¹, M. Coleman²
¹Swinburne University of Technology, ²Tiger Spider Pty Ltd.

ORCA project: optimization framework for next generation heavy duty hybrids.
Steven Wilkins¹, Thinh Pham¹, Duong Tran², Omar Hegazy², Noshin Omar²
¹TNO, ²Vrije Universiteit Brussel

DAY 3 THURSDAY 4 OCTOBER 2.00 pm – 3.40 pm

DRIVER SUPPORT AND CHASSIS MANAGEMENT

Minimum swept path control for autonomous reversing of long combination vehicles.
Xuanzuo Liu, David Cebon
University of Cambridge

Path following bi-directional controller for articulated vehicles.
A. Tomar, K. Kural, R. Kusukamar, A. Naren
HAN University of Applied Sciences

Heavy vehicle braking using friction estimation for controller optimization.
B.E. Westerhof¹, D. Kalakos², L. Henderson², B. J. H. Jacobson³, S. Zhu³
¹Delft University of Technology, ²KTH, ³Volvo GTT, ⁴Chalmers University of Technology

DAY 3 THURSDAY 4 OCTOBER 2.00 pm – 3.40 pm

GLOBAL EXPERIENCES WITH HIGH PRODUCTIVITY VEHICLES

An overview of the performance-based standards pilot project in South Africa.
P. Nordengen¹, R. Berman¹, C. de Saxe¹, J. Deiss²
¹CSIR, ²University of the Witwatersrand

Performance based standards project in Sweden.
Sogol Kharrazi
VTI

Finding the edge of the envelope - the evolution of high productivity motor vehicles in New Zealand.
John De Pont¹, Don Hutchinson², James Smith³
¹TERNZ Ltd., ²New Zealand Transport Agency, ³Halls Transport

A study of the introduction of high productivity vehicles into Uruguay.
Alejandra Efrón¹, Bob Pearson²
¹BrAle/EMaBi, ²Pearson Transport Research Center - PTRC