



DAY 1 TUESDAY 2 OCTOBER 12.00 – 12.50, ROOM A

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 – 12.50, ROOM B

DRIVER INVOLVED SAFETY STRATEGIES - 1

Integrating safety technology and management practice for improved fleet safety

John Woodrooffe
Woodrooffe 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 – 12.50, ROOM C

PAVEMENT & BRIDGE LOADING

Characterizing in-service truck loads for improved pavement and bridge performance: experiences from Manitoba, Canada

J.D. Regehr, B. Algoji, 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

¹Autonomous University of Queretaro, ²IFSTTAR, ³Belgian Road Research Center

DAY 1 TUESDAY 2 OCTOBER 14.00 – 15.40, ROOM A

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

FALCON III : Defining a performance-based standards framework for high capacity vehicles in Europe.

C. de Saxe¹, K. Kural², S. Kharrazi³, F. Schmidt⁴, C. van Geem⁵, R. Berman¹, John Woodrooffe⁶, D. Cebon⁷

¹CSIR, ²HAN University of Applied Sciences, ³VTI, ⁴IFSTTAR, ⁵Belgian Road Research Institute, ⁶Woodrooffe Dynamics Ltd, ⁷University of Cambridge

FALCON IV: Validation of smart infrastructure access policy.

K. Kural¹, F.Schmidt², S. Erlingsson³, C. van Geem⁴, I. Vierth³, D. Cebon⁵, A. Lobig⁶, G. Liedtke⁶

¹HAN University of Applied Sciences, ²IFSTTAR, ³VTI, ⁴Belgian Road Research Center, ⁵University of Cambridge, ⁶DLR



Scientific program
parallel sessions

DAY 1 TUESDAY 2 OCTOBER 14.00 – 15.40, ROOM B

ROADMAPS FOR GREENER TRANSPORT

Aerodynamic and flexible trucks for next generation of long distance road transport (AEROFLEX).

Ben Kraaijenhagen¹, Cor van der Zweep²
¹MAN Truck & Bus AG, ²Uniresearch

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

Ultra-capacitor based kinetic energy recovery system for heavy goods vehicles

D. Ainalis¹, P. Achurra-Gonzalez¹, A. Gaudin², J. Garcia de la Cruz³, P. Angeloudis¹, W. Ochieng¹, M. Stettler¹
¹Imperial College London, ²ENSTA Paris Tech & National University of Singapore, ³Universidad Politécnica Madrid

Title to be determined. with focus on smart truck fleet management influencing the entire supply chain through fleet-owners.

Sophie Punte
Smart Freight Center

DAY 1 TUESDAY 2 OCTOBER 14.00 – 15.40, ROOM C

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

Generic framework for assessment and extraction of envelopes for long combination vehicles.

Krshna Kashampur, Bengt Jacobson, Manjurul Islam
University of Chalmers

Hyperperformance: advanced PBS performance prediction.

R. Berman¹, P. Nordengen¹, B. Rosman¹, B. van Niekerk²
¹CSIR, ²University of the Witwatersrand

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

Séamus Parker
FPInnovations

DAY 1 TUESDAY 2 OCTOBER 16.10 – 17.25, ROOM A

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

Empirical estimation of heavy goods vehicle tyre wear.

J. Lepine, S. Burgess, D. Cebon
University of Cambridge

A framework for heavy vehicle tyre cornering performance assessment and classification within the PBS scheme

Thomas Batchelor, Marcus Coleman
Tiger Spider Pty Ltd

DAY 1 TUESDAY 2 OCTOBER 16.10 – 17.25, ROOM B

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

A new class of ventilated disc brakes.

Frank Kienhöfer, Michael Atkins, Tongbeum Kim
University of the Witwatersrand

Innovative road train couplings, drawbar design trends and regulatory issues driven by PBS.

Brendan Coleman, Marcus Coleman, Jason Tjia, Derrick Wong, Neil Baldwin
Tiger Spider Pty Ltd.



DAY 1 TUESDAY 2 OCTOBER 16.10 – 17.25, ROOM C

COMPLIANCE AND ENFORCEMENT

Implementation of Weigh-In-Motion systems for direct enforcement of overloading.

H. van Loo¹, C. Oosterman²

¹Corner Stone International, ²NMI Certin

Re-engineering road networks through on-board mass (OBM) systems

Chris Konditsiotis, Gavin Hill

Transport Certification Australia

Perceptions of the road transport management system (RTMS): promoting voluntary certification.

A. Kamdar¹, F. Kienhöfer¹, B. Emwanu¹, G. Heyns², P. Nordengen³

¹University of the Witwatersrand, ²University of Johannesburg, ³CSIR

DAY 2 WEDNESDAY 3 OCTOBER 8.30 – 9.45, ROOM A

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

Mirjam Nelisse

TNO

ITS applications for higher productivity of road freight transport.

R. Aronietis, T. Voegelé

International Transport Forum at the OECD

DAY 2 WEDNESDAY 3 OCTOBER 8.30 – 9.45, ROOM B

DRIVER INVOLVED SAFETY STRATEGIES II

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

Closed loop performance of heavy goods vehicles.

Joop Pauwelussen

HAN University of Applied Sciences

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

John Woodrooffe

Woodrooffe Dynamics Ltd.

DAY 2 WEDNESDAY 3 OCTOBER 8.30 – 9.45, ROOM C

THE COST OF ROAD USE BY HEAVY VEHICLES

Methodology for estimating the road wear costs of heavy vehicles on a road network.

L. Kemp¹, A.J. Steenkamp², P. Nordengen¹

¹CSIR, ²University of the Witwatersrand

Relationship between (heavy) freight traffic and management/maintenance costs.

Henri Palm¹, Marc van den Elzen², Martin Kraan³

¹DAT.Mobility, ²Goudappel Coffeng, ³Dept. Water management & Public Works/TRAIMCO

Reduced pavement service life - causes and costs.

J. Granlund

WSP Sverige AB



DAY 2 WEDNESDAY 3 OCTOBER 14.00 – 15.40, ROOM A

PUBLIC POLICIES IN FREIGHT TRANSPORT

Imminent failure of public policies for urban freight transport in Barranquilla, Colombia.

Diego F. Suero Pérez¹, Orlando Carrillo², Sagith Amin², Santander Martinez², Silvia Quintero², Edna Polo²
¹Universidad Tecnológica de Pereira, ²Universidad Libre

Characteristics of road freight transport policy in The Netherlands.

Joris Cornelissen
Dept. of Waterways and Public Works, Ministry of Infrastructure and Watermanagement

Impact of disruptive innovations on road transport strategy.

T.M. Chen
TNO

DAY 2 WEDNESDAY 3 OCTOBER 14.00 – 15.40, ROOM B

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

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
¹Rotterdam University of Applied Sciences, ²Amsterdam University of Applied Sciences

DAY 2 WEDNESDAY 3 OCTOBER 14.00 – 15.40, ROOM C

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)

In search of a Dutch logistic core road network

Jan Top
Dept. of Waterways and Public Works, Ministry of Infrastructure and Watermanagement

Regulation on the road in the digital age - challenges and opportunities

C. Walker, A. Moulis
University of New South Wales

Intelligent road access & weight control system - first application for high capacity transport vehicles

Sten Wandel¹, Thomas Asp²
¹University of Lund, ²Swedish Transport Administration

DAY 2 WEDNESDAY 3 OCTOBER 16.10 – 17.00, ROOM A

AERODYNAMICS

Assessing the fuel savings of aerodynamic trailer devices in realistic conditions.

R. Veldhuizen, J.P. van der Krieken, G.M.R. van Raemdonck
WABCO

Assessment of innovation concepts for Truck-semitrailer combinations within the TRANSFORMERS project.

S. Wilkins¹, G. Hommen¹, S. van Zyl¹, E. van Eijk¹, A. Balau¹, G.J. Koornneef¹, R. Baert¹, B. Hillbrand², S. Wagner³, F. Jonkers⁴, C. Mailliet⁵, P. Adams⁵
¹TNO, ²Virtual Vehicle, ³Fraunhofer-IVI, ⁴DAF Trucks, ⁵Volvo Group Trucks Technology



DAY 2 WEDNESDAY 3 OCTOBER 16.10 – 17.00, ROOM B

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
¹*Heavy Vehicle Industry Australia*, ²*University of Melbourne*

DAY 2 WEDNESDAY 3 OCTOBER 16.10 – 17.00, ROOM C

MANAGING THE PERFORMANCE BASED STANDARDS (PBS) PROCESS

Type vehicle combinations – HCT Sweden 25.25 to 34 meters.

Lena Larsson¹, Emil Pettersson², Nikolas Fröjd¹
¹*Volvo GTT*, ²*ÅF Industry AB*

Leveraging cloud computing for heavy vehicle optimization and in-service performance assessment.

C. Lopez, M. Coleman
Tiger Spider

DAY 3 THURSDAY 4 OCTOBER 8.30 – 9.45, ROOM A

TRUCK AUTOMATION AND PLATOONING DEPLOYMENT

Truck platooning: an update after the European Truck Platooning Challenge.

Arjan van Vliet¹, Robbert Jansen², Joris Cornelissen³
¹*The Netherlands National Road Authority (RDW)*, ²*TNO*,
³*Dept. of Waterways and Public Works, Ministry of Infrastructure and Watermanagement*

Streetwise scenario mining for safety assessment of platooning trucks.

O. op den Camp, R. Wouters, J.-P. Paardekooper
TNO

DAY 3 THURSDAY 4 OCTOBER 8.30 – 9.45, ROOM B

SOCIETAL CHALLENGES OF HIGH PRODUCTIVITY VEHICLES

Challenges faced by local governments considering road access approval for high productivity freight vehicles.

R. de Christoforo
Advantia Transport Consulting Pty, Ltd.

Comparison of noise emission of HCT and classic vehicle combinations for timber transportation in Sweden.

Ulf Sandberg¹, Sogol Kharrazi¹, Piotr Mioduszewski²
¹*VTI*, ²*Gdansk University of Technology*

OECD/ITF study on high capacity transport (HCT) – final report.

Jerker Sjögren
Jesjo Konsult

DAY 3 THURSDAY 4 OCTOBER 8.30 – 9.45, ROOM C

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 3 THURSDAY 4 OCTOBER 14.00 – 15.40, ROOM A

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

Swedish roadmap for electric road systems.

M. Lindgren, J. Pettersson, A. Berndtsson
Swedish Transport Administration

Architectural proposal for low-cost low-emission high productivity freight vehicles with electric traction systems.

J. Allwright¹, A. Kulkarni¹, M. Coleman²
¹*Swinburne University of Technology*, ²*Tiger Spider Pty Ltd.*

ORCA project: optimization framework for next generation heavy duty hybrids.

Steven Wilkins¹, Thinh Pham¹, Duong Tran², Omar Hegazy², Noshin Omar²
¹*TNO*, ²*Vrije Universiteit Brussel*

DAY 3 THURSDAY 4 OCTOBER 14.00 – 15.40, ROOM B

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. Kusukumar, A. Naren
HAN University of Applied Sciences

Heavy vehicle braking using friction estimation for controller optimization.

B.E. Westerhof¹, D. Kalakos², L. Henderson³, B. J. H. Jacobson⁴, S. Zhu⁴
¹*Delft University of Technology*, ²*KTH*, ³*Volvo GTT*, ⁴*Chalmers University of Technology*

Improvement of the ride comfort of the truck with the semi-trailer through controllable top-level truck cabin suspension.

R. Junevičius¹, V. Ivanov², J. Theunissen³, M. Dhaens³, S. Schel³, J. Wilkin³, K. Motte³
¹*Vilnius Gediminas Technical University*, ²*Technical University Ilmenau*, ³*Tenneco Automotive Europe*

DAY 3 THURSDAY 4 OCTOBER 14.00 – 15.40, ROOM C

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
¹*CSIR*, ²*University 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
¹*TERNZ Ltd.*, ²*New Zealand Transport Agency*, ³*Halls Transport*

A study of the introduction of high productivity vehicles into Uruguay.

Alejandra Efrón¹, Bob Pearson²
¹*BrAle/EMaBi*, ²*Pearson Transport Research Center - PTRC*