

# Conference Program



Brisbane Convention & Exhibition Centre (BCEC)  
Plaza Level

6 to 10 November 2023



FORUM

Technology Convergence 2023  
 Setting the Wheels in Motion:  
 Reimagining the Future of Heavy Vehicles, Roads and Freight



Monday 6 November				
Registration	5:00 to 7:00 pm	Plaza Level Concourse (P6)		
Evening Function	7:00 to 9:00 pm	Exhibition Hall (P6, P7 & P8)	Welcome Reception	Sponsored by <b>V-DAQ</b>

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 The conference program continues on the following pages.


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Tuesday 7 November			
Exhibition	All Day	Exhibition Hall (P6, P7 & P8)	
Conference Start	9:30 am	(P10 & P11)	
Official Opening/ Plenary Session 1	<b>Technology Convergence: Reimagining the Future</b> <b>Loes Aarts</b> – President, International Forum for Heavy Vehicle Transport & Technology (HVTT Forum) <b>Chris Koniditsiotis</b> – President, International Society for Weigh-In-Motion (ISWIM) Moderator: <i>Gavin Hill</i> – Vice President, Australasia and Pacific, HVTT Forum		
Morning Tea	10:30 to 11:00 am	Exhibition Hall (P6, P7 & P8)	
Reimagining heavy vehicles & freight (P10)	Road freight electrification around the world using electric road systems P. DESHPANDE, C. DE SAXE, D. AINALIS, J. MILES, D. CEBON  Zero Emission, flexible vehicle platforms with modular powertrains serving the long-haul Freight Eco System (ZEFES) O. HEGAZY, B. KRAAIJENHAGEN  Towards the development of a trucking fleet concept of operations (CONOPS) for managing automated driving system-equipped trucks in mixed fleets R. HANOWSKI, A. KRUM, X. JIN	<b>Technology convergence &amp; the digital revolution (P11)</b>	Automated docking of tractor semitrailer with driver in the loop via 5G teleoperation K.KURAL, N. MUTHAKANA, D. DEVASIA, G. VAN STEKELENBURG, B. HETJES, R. KUSUMAKAR, O.HELD, J. JUZA  Individual Vehicle Record (IVR) signature re-identification methods and new truck travel attribute results S. JESSBERGER, S.JENG, L. CHU  Designing high speed weigh-in-motion system with local linear regression in Wollonia (Belgium) – towards direct weight enforcement L. WARSCOTTE, J. BOREUX  How does WIM data provide value to ITS industry? P. WANG, Z. CHEN
Lunch	12:30 to 1:30 pm	Exhibition Hall (P6, P7 & P8)	
Optimising fuel efficiency & emissions (P10)	Truck tire and real-life fuel consumption F. DOMPROBST, J. BEAUPERE  Analysis of axle configuration, tire pressure, and tire temperature on fuel consumption of HCT combinations L. CIDER, K. PÅLSSON, E. PETTERSSON, L. LARSSON, T. JOHANSSON, S. JOHANSSON, G. IVEN, S. KÖPPEN, C. REPPLINGER  Introducing a novel method for measuring rolling resistance and dynamic vertical load on a semi-trailer suspension W. LEVESQUE, A. BÉGIN-DROLET, J. LÉPINE	<b>Advancing the science of road management (P11)</b>	Overweight vehicles: Impact on road infrastructure and safety T. BREEMERSCH, I. KNIGHT, S. FONTUL, S. VIEIRA GOMES, B. JACOB  Testing of next generation wide base tyres – pavement impacts A. GERMANCHEV, L. BRUZSA, C. LOOSE  High-capacity transport in cities and the impact on the roads S. RAHMAN, S. KHARRAZI, S. ERLINGSSON  Enhanced synergic identification of prestress force and moving force in prestressed concrete bridges K. JEYAMOHAN, T. CHAN, K. NGUYEN DECRA, D. THAMBIRATNAM
Afternoon Tea	3:00 to 3:30 pm	Exhibition Hall (P6, P7, and P8)	
Measuring mass through technology convergence (1) (P10)	Smart OBM and beyond; An insight into short and long term possibilities in Australia R. MICHAUD, B. NICOLL  Utilising Dynamic Excursions of Mass (DEM) from On-Board Mass (OBM) systems for monitoring infrastructure and truck suspension conditions and their degradation rates in real time R. SACK  Data analytics using Smart OBM - The Australian experience J. GORDON, G. HILL	<b>Safety through technology convergence (P11)</b>	Performance-based heavy vehicle driver fatigue management trial D. KALASIH, R. LEHEN, B.PEACOCK  Performance analysis of an A-Double in roundabouts using naturalistic driving data A. BEHERA, S. KHARRAZI, E. FRISK  Perspectives on the use of Weigh-in-Motion (WIM) for road safety applications in North America L. GUERSON, T. HAICHERT
Evening Function	5:00 to 7:00 pm	(P10 & P11)	
		<b>Panel session &amp; networking event hosted by National Women in Transport</b>	

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Wednesday 8 November			
Exhibition	All Day	Exhibition Hall (P6, P7 & P8)	
Conference Start	9:00 am	(P10 & P11)	
Plenary Session 2	<b>Measuring Heavy Vehicle Mass: Creating Value By Understanding Different Uses and Users</b> <b>Dennis Walsh</b> – Chief Engineer, Department of Transport and Main Roads (TMR) <b>Sal Petrocchio OAM</b> – Chief Executive Officer, National Heavy Vehicle Regulator (NHVR) <b>Dr Geoff Allan</b> – Chief Executive, Austroads, Vice President World Road Association (PIARC) Moderator: <i>Chris Koniditsiotis – President, ISWIM</i>		
Morning Tea	10:30 to 11:00 am	Exhibition Hall (P6, P7 & P8)	
<b>Measuring mass through technology convergence (2)</b> (P10)	WIM placement on road networks: Optimization models and a proposed deployment process L. FRANCESCHI, C. SOBROSA, G. OTTO, H. VAN LOO, W. REPETTE, A. VALENTE  Use of WIM sensors and geophones to increase the accuracy of weighing systems G. OTTO, L. FRANCESCHI, B. GEVAERD, A. ALMEIDA, C. SOBROSA  Virtual weigh-in-motion: The use of additional datasets to enhance WIM K. LEWIS, C. KARL, R. HEYWOOD, D. WARD, E. DANN  Computer vision: A non-contact approach to low-speed weigh-in-motion J. ZHANG, X. KONG, E. O'BRIEN	<b>The road to zero emissions</b> (P11)	Strategies for greening cross-border road freight transport, in South Africa N. SOKHETYE, V. TSAKO, S. DYODO  Transporting from the South America's lithium triangle: Sustainable challenges in meeting the white gold rush A. EFRON, J. GUIVANT, B. DWYER, V. VACAZUR, A. CERÚSICO, O. DIP, G. HUGHES, G. RIMOLDI  Deploying high-capacity transport and use the cost savings to finance zero emission vehicles and their charging infrastructure with intelligent access S. WANDEL, B. KRAAIJENHAGEN  Decarbonising the UK's heavy goods vehicles: Lessons from the UK for Australia D. AINALIS
Lunch	12:30 to 1:30 pm	Exhibition Hall (P6, P7 & P8)	
<b>Electrification of heavy vehicles &amp; trailers</b> (P10)	E-Trailer, emission reduction based on electrically propelled trailer J. ABO AISH, J. PAUWELUSSEN, K. KURAL, K. VAN MEELE, M. VAN KLINK, R. KOPPEJAN  Benefit analysis of introducing electric propulsion on converter dollies T. GHANDRIZ, F. BRUZELIUS, B. JACOBSON, L. LARSSON  Axle design as a key factor for greening road freight transport H. WERNER KOPFLOW	<b>WIM developments, standards &amp; requirements</b> (P11)	Brazilian guide for performance monitoring of HS-WIM system K. SHINOHARA, G. OTTO, E. GARCIA, A. ALMEIDA, V. TANI, W. REPETTE  Argentinean technical requirements for WIM systems J. JORGE, J. JONES, J. AMADO  Development of a novel weighing digital sensor for further evolution of WIM technology O. FUČÍK, M. JUHAS, J. FUČÍK  Tire width-based screening at a WIM preclearance site D. PRATT, T. HAICHERT
Afternoon Tea	3:00 to 3:30 pm	Exhibition Hall (P6, P7 & P8)	
<b>Latest research into heavy vehicle performance</b> (P10)	Characterisation of vibration response spectra of road transport vehicles M. LAMB, V. ROUILLARD  Investigation of dynamic loads on coupling on heavy high productivity freight vehicles P. CAUS, M. TOOMEY, R. SMEDLEY, B. WOODWARD, L. CARPENTER, W. BAKER  The ARTSA-i heavy vehicle brake calculator P. HART  Modelling of articulated heavy vehicles for computation of accurate safe operating envelope for yaw stability U. ERDINC, M. JONASSON, M. SADEGHI KATI, B. JACOBSON, J. FREDRIKSSON, L. LAINE	<b>Global adoption of intelligent access</b> (P11)	Two-decades of intelligent access in its birthplace of Australia – where we've been and where we're going G.HILL, C. KONIDITSIOTIS  Results from CEDR-work done around intelligent access T. ASP, L. AARTS  Intelligent access pilot for special road transport G. VAN STEKELENBURG, N. KNEPPERS, R. KUSUMAKAR  Lessons learned from the pilot intelligent access for special road freight transport in The Netherlands M. OTTO, L. AARTS
HVTT Forum General Assembly	5:00 to 6:00 pm	(P10)	
Evening Function	6:30 to 10:30 pm	(Plaza Gallery) <i>Located at the conference venue</i>	<b>Gala Dinner</b>  

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## Setting the Wheels in Motion: Reimagining the Future of Heavy Vehicles, Roads and Freight



Thursday 9 November			
Exhibition	All Day	Exhibition Hall (P6, P7 & P8)	
Conference Start	8:30 am	(P10 & P11)	
Workshop	National Automated Access System (NAAS) Functionality Requirements Workshop		
Morning Tea	10:00 to 10:30 am	Exhibition Hall (P6, P7 & P8)	
End-User Session/ Workshop 1 (P10)	Sessions TBC	End-User Session/ Workshop 2 (P11)	Sessions TBC
Lunch	12:30 to 1:30 pm	Exhibition Hall (P6, P7 & P8)	
Global regulatory developments (P10)	History and future of EU HDV weights and dimensions policy: Insights in policy preparation T. BREEMERSCH, I. KNIGHT, M. RODRIGUES  An assessment of the opportunity for coupling regulatory standards, self-regulatory statements and technology in the road freight transport sector in Southern Africa E. CHIBIRA, H. MOYANA  Moving away from black boxes on wheels: The path to better policy information on the impact of freight transport on road assets F. SCHMIDT, O. QUOY, L. AARTS	Using mass technologies to optimise infrastructure (1) (P11)	Artificial intelligence, real gains. Using machine learning to monitor over size /over mass heavy vehicle traffic on bridges M. BUCKLEY, A. SINHA, K. LEWIS, M. BERENI, T. WANG, S. LYNCH, M. HALDANE  Cataloging method and evaluation of pavement structure stability for HS-WIM system installation A. ALMEIDA, G. OTTO, S. SANTILLAN, K. SHINOHARA, A. MOROSSINO, F. DE MORI, V. TANI, A. VALENTE  The temperature dependence of the dynamic amplification factor J. KALIN, A. ŽNIDARIČ, A. ANŽLIN, D. HEKIČ
Afternoon Tea	3:00 to 3:30 pm	Exhibition Hall (P6, P7 & P8)	
Developments in performance based standards (P10)	A comparison of the Australian and New Zealand approaches to PBS J. DE PONT  Simulations and field testing of super-single tyres for PBS A. BUCKO, D. SIMMS, B. CHUANG  Auxiliary braking. A performance based standard proposal S. SAAVEDRA  Australian performance based standards: Past, present and future K. HASSALL, L. BRUZSA, A. GIBSON	Using mass technologies to optimise infrastructure (2) (P11)	Fusion of WIM and permit data for improved management of bridges A. NOWAK, S. STAWSKA, J. CHMIELEWSKI  Structural analysis using Bridge Weigh-In-Motion (B-WIM) system K. SHINOHARA, E. GARCIA, R. PINTO, P. JUNGES, W. REPETTE, M. VALENTE  Model updating of a multi-span highway viaduct with data from bridge weigh-in-motion sensors D. HEKIČ, A. ANŽLIN, A. ŽNIDARIČ, J. KALIN, P. ČEŠAREK  Bridge monitoring and data-driven structural asset management R. HEYWOOD, T. PAPE, D. WARD, P. SHAW, A. VOLL, M. HALDANE
ISWIM General Assembly	5:00 to 5:45 pm	(P10)	
Evening Function	6:30 to 10:30 pm (The Greek Club, 29 Edmondstone St. South Brisbane) <i>Walking distance from conference venue</i>	Social Dinner	Sponsored by 

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Friday 10 November			
Exhibition	All Day	Exhibition Hall (P6, P7 & P8)	
Conference Start	9:00 am	(P10 & P11)	
Plenary Session 3	<b>Leveraging Technology Convergence - Where to From Here?</b> <b>Micheal Caltabiano</b> - Chief Executive Officer, National Transport Research Organisation (NTRO) <b>Gary Mahon</b> - Chief Executive Officer, Queensland Trucking Association (QTA) <b>Anthony McMullan</b> - Chief Executive Officer, Truck Industry Council (TIC) <b>Aleš Žnidarič</b> - President, Forum of European National Highway Research Laboratories (FEHRL) <i>Moderator: Loes Aarts - President, HVTT Forum</i>		
Morning Tea	11:00 to 11:30 am	Exhibition Hall (P6, P7 & P8)	
Road network access & utilisation (P10)	A review of more than a decade of research and field tests on longer vehicle combinations in Sweden that supported road approval S. KHARRAZI, L. LAINE, L. LARSSON, J. SANDIN, B. JACOBSON, T. ASP, O. BAGDADI  High productivity freight vehicles for the physical internet R. THOMPSON  Automating route mapping for PBS vehicles M. COLEMAN, S. BUXTON, R. IBRAHIM  Comparative analysis of truck volumes from traffic counts and probe-based data: A case study in the Winnipeg Metropolitan Region, Canada C. ZROBEK, G. GRANDE, J. REGEHR, B. MEHRAN	Using WIM for compliance & enforcement (P11)	A comparison of axle weight masses from a low-speed weigh-in-motion scale and a static weighbridge scale for the purpose of broadening law enforcement efforts P. BINDA  DNIT technological model for direct enforcement on Brazilian federal highways G.OTTO, D. MELO, B. JUNIOR, A. ALMEIDA, W. REPETTE, A. VALENTE  Addressing the reliability challenges of High-Speed WIM (HS-WIM) for direct enforcement T. KONIOR, J. IZYDORCZYK, A. RYGULA, L. GUERSON  Challenges of applying and improving WIM systems for weight enforcement in Republic of Korea D. LEE, J. LEE, H. KIM, T. KIM, Y. JUNG, J. KIM
Lunch	1:00 to 2:00 pm	Exhibition Hall (P6, P7 & P8)	
Evaluating heavy vehicle performance & safety (P10)	Feasibility study on the application of modular combination vehicles in China road transport Z. HAO, M. HARBORN, T. XU  Improving concrete pump road safety assessment methods and standards M. COLEMAN, B. COLEMAN, J. ALLWRIGHT, J. UPADHYAY  An open assessment tool for standardized performance measures of long combination vehicles B. JACOBSON, S. KHARRAZI, N. FRÖJD, T. GHANDRIZ, O. BAGDADI	Optimising freight supply chains (P11)	Coronavirus and road freight supply chains in Australia – impact and implications S. JONES, J. RIVER-GONZALEZ  Evaluating the impact of technology in small-to-medium sized South African road freight companies M.MANTJI, L. MBANA, S. DYODO  Farm Gate – a case study in the value of telematics and public policy discourse B. COLEMAN, P. PULVER  High-fidelity in-service performance evaluation of heavy goods vehicles in South Africa M. ATKINS, C. DE SAXE, A. KAMDAR, X. NA, L. KHUMALO, D. AINALIS, D. CEBON
Conference Summary & Closing	3:45 to 5:00 pm	(P10 & P11)	

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