

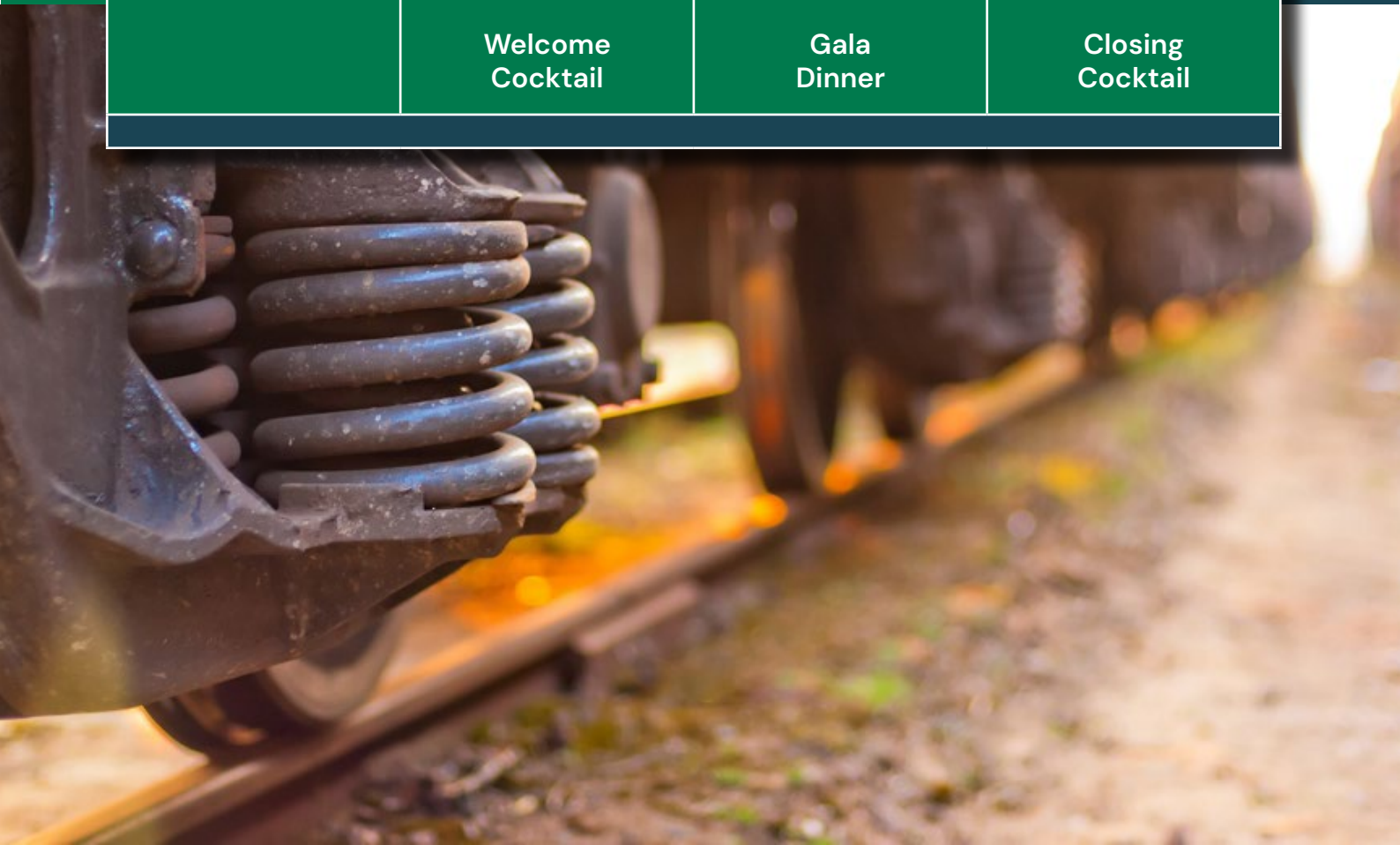


SAHHA CONFERENCE PROGRAMME



PROGRAMME AT A GLANCE

26 August (Monday)	DAY 1 27 August (Tuesday)	DAY 2 28 August (Wednesday)	DAY 3 29 August (Thursday)
TECHNICAL WORKSHOP	Opening Plenary	Plenary Sessions	Plenary Sessions
	TEA BREAK	TEA BREAK	TEA BREAK
	Plenary Sessions	Plenary Sessions	Parallel Sessions
	LUNCH BREAK	LUNCH BREAK	LUNCH BREAK
	Plenary Sessions	Parallel Sessions	Parallel Sessions
	TEA BREAK	TEA BREAK	COMFORT BREAK
	Plenary Sessions	Parallel Sessions	Closing Plenary
	Welcome Cocktail	Gala Dinner	Closing Cocktail



TECHNICAL WORKSHOP PROGRAMME

Sponsored by: Plasser South Africa and Plasser & Theurer

26 August 2024, Emperors Palace Convention Centre, Johannesburg, South Africa

Theme: "From Cradle to Grave – Fundamentals of Heavy Haul Railway Asset Management"

SCOPE: RAIL OPERATIONS, RAIL & PORT INFRASTRUCTURE AND ROLLING STOCK

07h30 – 08h30	Registration Welcoming Keynote: Brian Monakali, SAHHA Chair Nkululeko Gobhozi: Workshop Facilitator <i>Fezile Dantile, Managing Director, Plasser South Africa and Plasser & Theurer, Workshop Sponsor</i>
08h30 – 09h20	1. Materials and Components Quality: "Building Blocks for Durability" – Understanding the significance of high-quality materials and components in railway infrastructure, <i>Dr Emma Molobi, Principal Engineer, Rolling Stock Technology, Transnet Freight Rail</i>
09h20 – 10h10	2. Maintenance Strategies for Infrastructure: "Preserving the Foundations: Infrastructure Maintenance" – Examining tailored maintenance strategies for railway infrastructure, emphasizing the importance of preserving the fundamental elements for long-term reliability, <i>Johan van Aardt, Chief Engineer, Rail Network, Transnet Freight Rail</i>
10h10 – 10h30	TEA BREAK
10h30 – 11h20	3. Maintenance Strategies for Rolling Stock for Slot Protection: "Optimizing On-the-Move: Rolling Stock Maintenance" – Delving into effective maintenance strategies for rolling stock, focusing on proactive measures to ensure the continuous reliability and performance of trains. Considerations for Condition Monitoring Systems as Slot Protection technologies for the Infrastructure Manager, <i>Carl Meyer, Chief Maintenance Engineer, Transnet Engineering</i>
11h20 – 12h10	4. Mechanised Maintenance on Heavy Haul Lines: "Best practices for track maintenance on heavy-haul lines around the world utilizing on-track maintenance machinery" – Understanding and using best practices for maintenance on heavy-haul lines world wide, <i>Martin Winkelmayer, Senior Sales Manager, Plasser & Theurer</i>
12:10 – 13:00	LUNCH BREAK

TECHNICAL WORKSHOP PROGRAMME (CONTINUED)

13h30 – 13h50	5. Maintenance Strategies for Port Infrastructure: “Shifting Gears: Port Infrastructure Maintenance” – Exploring effective maintenance strategies for port infrastructure to minimize downtime and optimize productivity, <i>Jaco Westhuizen, General Manager Engineering & Capital Projects, Transnet Port Terminals and Prof. Johann Wannenburg, Mining Engineering Department, University of Pretoria</i>
13h50 – 14h40	6. Replacement Planning: “Strategic Asset Replacement” – Discussing methodologies for strategic asset replacement planning to ensure the continuous efficiency of railway systems. What are critical considerations to trigger replacement or major rail assets, <i>Mike Roney, Retired GM Rail Infrastructure, Canadian Pacific, IHHA Advisor</i>
14h40 – 15h30	7. Heavy Haul Rail Operational Efficiency: “Maximizing Slot Capacity through Train Design” – Train design principles and how it is leveraged to benefit operations, taking into consideration rolling stock constraints, signalling and infrastructure layout, with Case studies, <i>Ross Hartley Professional Engineer, Miner Enterprises Inc.</i>
15h30 – 15h45	TEA BREAK
15h45 – 16h35	8. Management of Railway Bridges: “Reliability of Bridges” – Bridge management philosophies. Bridge management systems, Network-level bridge management, Elements of bridge management systems, Specific bridge management issues for railway bridges, Project-level bridge assessment, Applications of structural health monitoring and data analytics in bridge management, Integration of measured data with numerical models for bridge performance evaluation. Examples, <i>Prof Pilate Moyo PhD, Department of Civil Engineering, University of Cape Town</i>
16h35 – 17h25	9. Railway Asset Management Technologies: “Innovations in Railway Asset Management Technologies” – The fundamentals of railway asset management, maintenance principles and philosophies, infrastructure health measurement and condition monitoring, data management and analytics, examples of new technologies that can aid railways with the implementation of effective and efficient railway asset management, <i>Prof. Hannes Gräbe, Professor & Head of Department: Civil Engineering, University of Pretoria</i>
17h30 – 19h00	Onsite Issuing of Access Card to the Conference at Emperors Palace Opens (Venue: Centre Court Foyer)

Each slot will consist of a 40-minute presentation followed by a 10-minute Q&A session. This comprehensive workshop aims to provide a holistic view of rail & port asset management, fostering knowledge from the initial stages through to the end of the asset life cycle.

SAHHA CONFERENCE PROGRAMME

CONFERENCE DAY 1 – TUESDAY 27 AUGUST 2024

07h00 – 08h30	Onsite Issuing of Access Card to the Conference (Venue: Centre Court Foyer)
	Opening Plenary – Set up for Success (Rail Reform Implementation) SESSION CHAIRPERSON: Fifi Peters, Award Winning Financial Journalist
08h30 – 09h00	CONFERENCE OPENING CEREMONY (VENUE: ASSEMBLY HALL)
09h00 – 09h20	1. Welcoming Note, <i>Brian Monakali, Chairman, SAHHA</i>
09h20 – 09h40	2. Opening Address <i>Andile Sangqu, Chairman, Transnet SOC Ltd</i>
09h40 – 10h10	3. Mining Industry Challenges and Opportunities – gearing for success, <i>Mzila Mthenjane, CEO, Minerals Council of South Africa</i>
10h10 – 10h35	4. Unpacking the National Freight Logistics Roadmap, <i>Rudi Dicks, Head, Project Management Office, Presidency</i>
10h35 – 10h45	Official Opening of the Exhibition
10h45 – 11h05	TEA BREAK AT THE EXHIBITION HALL, SPONSORED BY FRASLE MOBILITY
11h05 – 11h35	5. Transnet restructuring, reorganization and repurpose <i>Michelle Phillips, Group Chief Executive, Transnet SOC Ltd</i>
11h35 – 12h25	6. Rail Reform, Regulations and Public – Private Partnerships as a key enabler to unlocking Rail transportation – A Case Study of USA, Brazil, India, Australia, China, <i>Bernard Aritua, Lead Transport & Logistics Specialist, World Bank, Eastern and South Africa</i>
	7. Progress on Implementation of the National Freight Logistics Roadmap Reform:
12h25 – 12h55	7.1 Private Sector Participation Framework <i>Ngwako Makaepa, Deputy Director General, Rail Transport, Department of Transport</i>
12h55 – 14h00	LUNCH BREAK AT THE EXHIBITION HALL
14h00 – 14h30	7.2 Establishment of the Transport Economic Regulator, <i>Rirhandzu Mashava, Deputy Director General, Integrated Transport Planning, Department of Transport</i>
14h30 – 15h00	7.3 Winning as a Rail Operator in the New Deregulated World – lessons from the Canadian Rail Experience.”, <i>Theo Sibiyi, Partner and Managing Director, Kearney Africa</i>
15h00 – 15h30	7.4 Role of business in enabling Government Business Partnerships, <i>Mxolisi Mgojo, President, Business Unity South Africa (BUSA)</i>
16h00 – 20h00	WELCOMING COCKTAIL FUNCTION AT EXHIBITION HALL, SPONSORED BY TSHIPI É NTLE MANGANESE MINING

SAHHA CONFERENCE PROGRAMME

CONFERENCE DAY 2 – WEDNESDAY 28 AUGUST 2024

Plenary – Heavy Haul Challenges and Opportunities

SESSION CHAIRPERSON: Fifi Peters, Award Winning Financial Journalist

08h30 – 08h45	1. Welcoming Note, <i>Ian Bird, Senior Executive, Transport & Logistics Focal Area, Business Unity South Africa (BUSA)</i>
08h45 – 09h05	2. Keynote Address, Using Partnerships to Unlock a new Future for SA's Heavy Haul Rail, <i>Mpumi Zikalala, CEO, Kumba Iron Ore</i>
09h05 – 09h25	3. Heavy Haul Logistics Value Chain: A Pit to Port Approach, <i>Bennie Vorster, Regional Director, Hatch, Conference Silver Sponsor</i>
09h25 – 09h55	4. Restoring Rail capacity in South Africa: A Transnet Freight Rail Operations view, <i>Russell Baatjies, Chief Executive, Transnet Freight Rail</i>
09h55 – 10h20	5. Challenges, Successes and Long Term Solutions at Transnet Port Terminals, <i>Jabu Mdaki, Chief Executive, Transnet Port Terminals</i>
10h20 – 10h40	6. Thinking Differently about Rail Safety, <i>Warren Wellbeloved, General Manager Rail, BHP, Australia, IHHA Director</i>
10h40 – 11h00	TEA BREAK AT THE EXHIBITION HALL
11h00 – 11h45	<p>7. Panel: Sustainable Heavy Haul Moderator: <i>Nosipho Siwisa-Damasane, Chairperson, RBCT</i></p> <p>Panel Members: Mining Industry: <i>Mike Teke, CEO, Seriti Resources</i> Rail Operator: (Transnet): <i>Mapaseka Lukhele, General Manager, Corporate Sustainability, Transnet SOC Ltd</i> Private Rail Operator: <i>Ronnie Ntuli, Chairman, Thelo Group</i> Heavy Haul Industry: <i>Warren Wellbeloved, General Manager Rail, BHP, Australia, IHHA Director</i></p>
11h45 – 12h05	8. The role of Research and Development in shaping the future of Heavy Haul, USA experience, <i>Kari Gonzales, President and CEO, MxV Rail, USA, IHHA Director</i>
12h05 – 12h25	9. A Multi-disciplinary Approach to Security in Support of Heavy Haul, <i>Ashwyn Govind, Chief Security Officer, Transnet SOC Ltd; Major General Mzikayise Joseph Tyhalisi, SANDF Chief Director, Joint Operations Division</i>
12:25 – 13:30	LUNCH BREAK AT THE EXHIBITION HALL

SAHHA CONFERENCE PROGRAMME (CONTINUED)

CONFERENCE DAY 2 – WEDNESDAY 28 AUGUST 2024

	PARALLEL SESSIONS – TECHNICAL PAPER PRESENTATIONS			
	Session A	Session B	Session C	Session D
	Track Infrastructure 1	Rolling Stock 1	Electrical Systems	Network Capacity
	Meeting Room: The Assembly 1&2	Meeting Room: Assembly 4	Meeting Room: Fabia 1	Meeting Room: Fabia 2
	<i>Session Chair: Siboniso Vilakazi</i>	<i>Session Chair: Sheraton Singh</i>	<i>Session Chair: Muhumbulo Mmbengwa</i>	<i>Session Chair: Anneri Robinson</i>
13h30 – 13h55	Financial, economic and political impact on heavy haul maintenance crisis & well engineered solutions through basic condition assessment philosophy <i>Katlego Lekala, Transnet Freight Rail</i>	Advancements in the South African railway industry over the past 50 years: A review <i>Emma Molobi, Transnet Freight Rail</i>	The effect of non-functional wave filter equipment in 3 kV DD traction networks <i>Kaid Rendal, Transnet</i>	Railway system condition assessment outcomes and action plan implementation <i>Keaton Raman, Hatch</i>
13h55 – 14h20	Investigating the delaying mechanisms that affect On-Track Machine (OTM) performance which impacts track maintenance <i>Siyabonga Ngcongo, Transnet Freight Rail</i>	Effect of surface integrity on railway axle fatigue life <i>Lindelani Nethamba, Transnet Freight Rail</i>	Improving the energy efficiency of rectifier circuit and cooling automation for 3kV DC substations on the Manganese line <i>Khanyo Mathenjwa, Transnet</i>	Rail and port capacity mismatches in heavy haul lines through an asset lifecycle focusing on planning, maintenance and operations <i>Mpho Ramuhulu, Transnet National Ports Authority</i>
14h20 – 14h45	Mitigating the effects of drastic climate change on the railway track <i>Rita Dlamini, Transnet SOC Ltd</i>	Prevention of locomotive wheel-tread polygonisation through adhesion control software modification <i>Ndamulelo Mulaudzi, Transnet Freight Rail</i>	Improving traction network efficiency by optimising power returned from locomotives on AC networks <i>Theolen Chetty, Transnet</i>	Road to rail strategy and port terminal short rail hauls – A quest for new implementation approach <i>Moeketsi Khosi, Transnet Port Terminals</i>
14h45 – 15h10	The use of vibration sensing as a preventative maintenance strategy in the South African railway sector <i>Motlalepule Machitje, Transnet Freight Rail</i>	Estimating knuckle fatigue life with asymmetrical pulling lugs <i>Vusimuzi Moloi, Transnet Freight Rail</i>	Dynamic switching of locomotive vacuum circuit breakers using geofencing at neutral sections <i>Timothy Rangata, Transnet Freight Rail</i>	Heavy haul logistics infrastructure as a catalyst for sustainable economic development in Africa's free continental trade area value chain systems <i>Annah Ncube, Transnet Pipelines</i>
15h10 – 15h30	TEA BREAK AT THE EXHIBITION HALL			

SAHHA CONFERENCE PROGRAMME (CONTINUED)

CONFERENCE DAY 2 – WEDNESDAY 28 AUGUST 2024

PARALLEL SESSIONS – TECHNICAL PAPER PRESENTATIONS				
	Session A	Session B	Session C	Session D
	Track Infrastructure 2	Vehicle Track Interaction	Telecommunication, Train Authorisation & Condition Assessment	Railway Operations
	Meeting Room: The Assembly 1&2	Meeting Room: Assembly 4	Meeting Room: Fabia 1	Meeting Room: Fabia 2
	Session Chair: Tshepo Motsie	Session Chair: Keaton Raman	Session Chair: Brian Bowie	Session Chair: Sentse Ramosolo
15h30 – 15h55	Impact of rounded ballast on ballast screening effectiveness for sustained track geometry improvement on the Oreline: a case study by TFR <i>Rudzani Makhani, Transnet</i>	Development of bogie-mounted load cells as a cost-effective alternative to traditional load-measuring wheelsets <i>Darren James, Transnet Freight Rail</i>	Electronic dragging equipment detector <i>Edwin Ndwakhulu, Ramabulana Transnet Freight Rail</i>	Sensitivity analysis on railway supply chain for pit-to-port operations <i>Christian Demmerez De Charmoy, Bigen</i>
15h55 – 16h20	Condition assessment methods for concrete sleepers: Feasibility for large-scale South African applications <i>Astrid Lambrechts, Transnet</i>	Development of low-cost, vehicle-response-based monitoring node network to evaluate track geometry quality on in-service trains <i>Eduard Reitmann, Transnet Freight Rail</i>	Implementation of low-power transceivers in end of train devices <i>Malebo Thene, Transnet Freight Rail</i>	Integrated framework for procurement, project management and asset lifecycle management in rail operations: a Transnet approach <i>James Bopape, Transnet Freight Rail</i>
16h20 – 16h45	Assessing track ballast durability: morphological changes in LA abrasion tests using enhanced aggregate image analyzer <i>Gculisile Mavis Mvelase, CSIR</i>	Towards eliminating rail gauge-face wear in South Africa <i>Calvin Tau, Transnet Freight Rail</i>	Integrated Wheel-Rail monitoring and asset management approach <i>Tumisang Legodi, Transnet</i>	Railway heavy haulage transport systems, digital technology and its role on procurement strategies: Perspectives from South Africa <i>Tshepo Matlapeng, Transnet Freight Rails</i>
16h45 – 17h10	Improvements to the performance of the stainless steel flash-butt weld on 1 in 20 swingnose turnout crossings on the South African heavy haul Coal and Ore lines <i>Siboniso Vilakazi, Transnet Freight Rail</i>	Feasibility of the development of a low-cost load measuring wheelset for the South African railway environment <i>CCE Rossouw, Transnet Freight Rail</i>	An investigation into the technology transfer barriers of the electronic train control systems installed on the South African railway network – A study into South Africa's Freight Rail Operator <i>Simphiwe Dorcas Mtanti, SDM Engineering</i>	
18h30 – 22h30	AWARDS AND GALA DINNER (VENUE: RED ROMAN SHED)			

SAHHA CONFERENCE PROGRAMME

CONFERENCE DAY 3 : THURSDAY 29 AUGUST 2024

Plenary – Enabling Heavy Haul Success (Venue: ASSEMBLY HALL)

SESSION CHAIRPERSON: *Thato Ramashala, Exponential Growth Leader, Futureworld*

08h30 – 08h45 Keynote: South African Economic Landscape – Business Perspective,
Busisiwe Mavuso, CEO, Business Leadership South Africa (BLSA)

08h45 – 09h05 Open Access Framework and Progress to date,
Thembi Lekganyane, Interim Infrastructure Manager, Transnet SOC Ltd

09h05 – 09h20 **Panel of Questions and Answers:**
Thembi Lekganyane, Interim Infrastructure Manager, Transnet SOC Ltd;
Sandile Magenuka, Acting General Manager, Rail Network & Capital Projects;
Eric Pete, Head of Service Capacity & Design, Transnet Freight Rail

09h20 – 10h00 **Panel 1:**
Fostering Collaboration that enables successful implementation of the Rail Reform
Moderator: *Tebello Chabana, Senior Executive, Public Affairs & Transformation*

Panel Members:
Barry Bezuidenhout, Vice President Operations, Manganese SA, South32
Bonginkosi Mabaso, Chief Commercial Officer, Transnet Freight Rail
Nosipho Siwisa-Damasane, Chairperson, RBCT
James Holly, CEO, Traxtion

10h00 – 10h45 **Panel 2:**
Promoting Rail Research in South Africa
Moderator: *Theo Sibiyi, Partner and Managing Director, Kearney Africa*

Panel Members:
Industry: *Prof. Pilate Moyo, University of Cape Town, Board Member, SAHHA*
Research Institution: *Prof Hannes Grabe, University of Pretoria*
Transnet: *Mesham Sivnarain, Chief Engineer, Product Systems Development, Transnet Engineering*
Research Institution: *Dr Sandile Malinga, Group Executive: Smart Society, CSIR*

10h45 – 11h00 Advancing the Engineering Profession in South Africa,
Admund Nxumalo, Executive: Regulatory Service & International Relations, Engineering Council of South Africa (ECSA)

11h00 – 11h15 TBC

11h15 – 11h35

TEA BREAK AT THE EXHIBITION HALL

SAHHA CONFERENCE PROGRAMME (CONTINUED)

CONFERENCE DAY 3 : THURSDAY 29 AUGUST 2024

PARALLEL SESSIONS – TECHNICAL PAPER PRESENTATIONS				
	Session A	Session B	Session C	Session D
	Track Infrastructure 3	Rolling Stock 2	Artificial Intelligence & Safety	Train Loading Operations & Equipment
	Meeting Room: The Assembly 1&2	Meeting Room: Assembly 4	Meeting Room: Fabia 1	Meeting Room: Fabia 2
	<i>Session Chair: Hannes Gräbe</i>	<i>Session Chair: Bheki Makhanya</i>	<i>Session Chair: Willem Sprong</i>	<i>Session Chair: Baltimore Miles</i>
11h35 – 12h00	Long-term grinding contracts – A First in Brazil <i>Leonardo Soares, Loram South America</i>	Finite Element Analysis of class 15 electric locomotive's derailment bar <i>Kgomotso Rabothata, Transnet Freight Rail</i>	Utilising prognostics principles to estimate the remaining useful life of rolling stock components: Enhancing the optimisation of railway <i>Jacques Coetzee, Transnet Freight Rail</i>	Addressing rapid loading challenges of new locomotives at mines: a case study by Transnet Freight Rail <i>Seloke Tladi, Transnet SOC</i>
12h00 – 12h25	Ore corridor rail performance <i>Mayvyn Bhana, Transnet Freight Rail</i>	Root cause investigation of vibration-based failures on locomotive compressors <i>Refilwe Selemela, Transnet Freight Rail</i>	Crack growth monitoring IoT sensor for civil infrastructures <i>Thato Mahlatji, Transnet</i>	Improving the train loading operating method for efficiency gains on the entire South Africa's Manganese Heavy Haul system <i>Sentserere Ramosolo, South32</i>
12h25 – 12h50	Welding flux optimization: ensuring structural integrity and operational success of South African's heavy haul tank wagons <i>Kayla Nel, Transnet Engineering</i>		Web-based remote control of high voltage circuit breakers and motor operated disconnects <i>Christopher Theminkosi Mcineka, Transnet</i>	Minimizing heavy haul wagon damage & maximizing offloading efficiency at South Africa's ports: a wagon design optimization <i>Tebogo Mashego, Transnet Engineering</i>
12h50 – 13h50	LUNCH BREAK AT THE EXHIBITION HALL			

SAHHA CONFERENCE PROGRAMME (CONTINUED)

CONFERENCE DAY 3 : THURSDAY 29 AUGUST 2024

	PARALLEL SESSIONS – TECHNICAL PAPER PRESENTATIONS			
	Session A	Session B	Session C	Session D
	Bridges, Culverts & Structures	Manufacturing	Safety & Security	Sustainability
	Meeting Room: The Assembly 1&2	Meeting Room: Assembly 4	Meeting Room: Fabia 1	Meeting Room: Fabia 2
	Session Chair: <i>Pilate Moyo</i>	Session Chair: <i>Velaphi Matjeke</i>	Session Chair: <i>Willem Sprong</i>	Session Chair: <i>David Mpye</i>
13h50 – 14h15		Adopting model-based system engineering to optimize railway cast components <i>Lindokuhle Vithi, Transnet Engineering</i>	Track monitoring and condition diagnostics using electrical pulse response analysis <i>Christiaan Doubell, HisWay Labs</i>	Space technology to monitor the condition of railway assets <i>Skevi Perdikou, GEOFEM</i>
14h15 – 14h40		Microstructural and mechanical characterization of low alloy steel: A comparative analysis between conventional casting and additive manufacturing techniques <i>Nomcebo Bridgete, Mndebele Transnet Engineering</i>	Enhancing heavy haul service security through an agile systems-based approach: an exploration of outcomes-based security <i>Aqeela Dinat, Transnet</i>	Navigating heavy haul success with optimised materials and smart designs <i>Alberto Ronchi, Lucchini RS S.p.A.</i>
14h40 – 14h50	COMFORT BREAK			
14h50 – 15h50	OFFICIAL CONFERENCE CLOSING AND WRAP UP (VENUE: ASSEMBLY HALL) SESSION CHAIRPERSON: Thato Ramashala, Exponential Growth Leader, Futureworld			
16h00 – 19h00	CLOSING COCKTAIL FUNCTION AT EXHIBITION HALL, SPONSORED BY GRINDROD SOUTH AFRICA (PTY) LTD			