

SAHHA

CONFERENCE **2024**

POSITIONING HEAVY HAUL FOR SUCCESS

26-29 AUGUST 2024 EMPERORS PALACE CONFERENCE CENTRE, JOHANNESBURG

Post Conference Report

SOUTH AFRICAN HEAVY HAUL ASSOCIATION (SAHHA) CONFERENCE

26-29 August 2024, Emperors Palace Convention Centre, Johannesburg, South Africa



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FOREWORD

It is my distinct honor to present this post-conference report. The South African Heavy Haul Association (SAHHA) Conference, held on 26–29 August 2024, at Emperors Palace Convention Centre, Johannesburg, South Africa, brought together 517 participants from diverse sectors, including Mining, rail and port organisations, government institutions, funders, research institutions and academia, manufactures, suppliers, business community and professional bodies, united by the common goal of achieving a globally competitive Heavy Haul System.

The conference's theme, "Positioning Heavy Haul for Success" resonated deeply with the challenges and opportunities we face today. Over the course of 4 days, we engaged in enriching dialogues, insightful presentations, and a collaborative workshop that underscored the importance of promoting collaboration amongst the key players in the Heavy Haul value chain. The scope of the conference covered the Heavy Haul logistics value chain, from train loading at the mines, rail hauling to vessel loading at the ports (Pit to Port system).

The success of this event would not have been possible without the invaluable contributions of our 113 authors and speakers, delegates from 15 countries and 115 organisations. Their passion, expertise, and commitment have been instrumental in creating an environment conducive to meaningful discussions and innovative solutions.

On behalf of SAHHA, I would like to express/extend heartfelt appreciation to our 18 sponsors, 37 exhibitors, 4 strategic partners and 5 media partners for their tremendous support in making this conference a success.

This report captures the key highlights, outcomes, and recommendations that emerged from the conference. It serves as both a record of our shared journey and a blueprint for the work that lies ahead. I encourage you to reflect on these findings and join us in translating them into impactful actions.

As we move forward, let us continue to build on the momentum generated by the SAHHA Conference and foster the collaboration necessary to drive progress that will Position Heavy Haul for Success.

On behalf of the organizing committee, thank you for your support and active participation. Together, we are shaping a brighter future.

Sincerely,

Brian Monakali

Chairperson, SAHHA





WHO IS SAHHA



The South African Heavy Haul Association (SAHHA) is the only association that provides a platform for promoting Heavy Haul excellence in South Africa and serves as a channel for sharing global best practices.

SAHHA is the local chapter of the over 43-year-old International Heavy Haul Association, which has 10 member countries.

SAHHA conferences, hosted every two years, have a reputation of delivering high quality, peer-reviewed technical papers, with solutions that are implementable, in the areas of cutting-edge technology, engineering, operations, infrastructure, rolling stock, and manufacturing.

Discussions on strategic issues facing the heavy haul industry is also a main feature in SAHHA conferences.

SAHHA is a not-for-profit association, managed and overseen by experienced, voluntary board of directors as a service to the profession and the industry. The scope of SAHHA is Pit to Port Heavy Haul logistics value chain, i.e. from train loading at the mines, rail hauling to vessel loading at the ports.



CONFERENCE DELIVERY TEAM



SAHHA BOARD MEMBERS

Brian Monakali
Chairman SAHHA

Prof. Hannes Gräbe
Professor & Head of Department: Civil Engineering, University of Pretoria

Jaco VD Westhuizen
General Manager Engineering & Capital Projects, Transnet Port Terminals

Kubendren Naidoo
General Manager, Asset Management, Richards Bay Coal Terminal (RBCT)

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Nkululeko Gobhozi
Chief Engineer, Technology Management, Transnet Freight Rail

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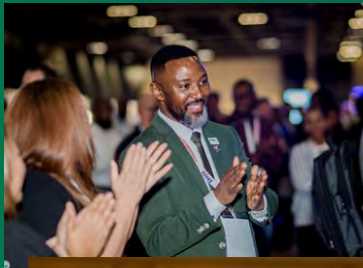
PARTNERS



EXHIBITORS



PLENARY SESSIONS



OUR SPEAKERS

Highlights of Day 1 Strategic Plenary: Set up for Success – Rail Reform Implementation

Welcoming Keynote

Brian Monakali, Chairman, SAHHA

The day began with a welcoming note from **Mr. Monakali**, who underscored the importance of collaboration and innovation in advancing the rail sector. Brian gave everyone at the SAHHA conference a warm welcome. The SAHHA Conference objectives are underpinned by the Conference Theme: Positioning Heavy Haul for Success – pit to port.

First objective: Discuss & align on strategic issues facing the Heavy Haul industry and aim to set us for success in medium to longer term.

Secondly: Unpack our current Heavy Haul challenges and opportunities and pave a way towards solutions – together. The third one: Promote effective collaboration by all key stakeholders in the Heavy Haul value chain.

The Conference programme was designed to achieve these objectives.



Opening Address

Andile Sangqu, Chairman, Transnet SOC Ltd

Mr. Sangqu delivered a compelling opening address, highlighting Transnet's important role in the national economy. He emphasized the need for strategic partnerships and robust leadership to navigate current challenges and seize future opportunities.

Transnet regards the South African Heavy Haul Association platform as an opportunity to engage with our Heavy Haul customers, policy makers, financial institutions, civil society, suppliers, research institutions, and business community in the quest to transform our freight industry to be cost effective, efficient, safe, and globally competitive. He closed by urging all to actively participate, discuss, share knowledge and innovation during this conference.



Mining Industry Challenges and Opportunities – gearing for success

Mzila Mthenjane, CEO, Minerals Council of South Africa

Mr. Mthenjane provided a deep dive into the mining industry's challenges and opportunities, underlining the sector's critical role in South Africa's economic future. SA lost out on estimated **R140bn** in **export revenue** from coal & iron ore in 2021-23. Mining has the potential to create quality employment opportunities and play a crucial role in restoring the dignity of South Africans. He highlighted the importance of ensuring that the benefits of mining extend beyond the industry, fostering inclusive growth that bridges economic disparities and supports long-term national development. "A successful Heavy Haul sector and national logistics system will enable the performance of the mining industry to drive economic growth and open opportunities for South Africa's prosperity", he stressed



Unpacking the National Freight Logistics Roadmap

Rudi Dicks,
Head, Project Management Office,
Presidency

Mr Dicks noted that the Freight Logistics Roadmap aims to address the immediate challenges and to place Transnet on a sustainable footing for the future, while saving jobs and growing the economy as a whole. In the immediate to short term, the urgent priority is to remove constraints on Transnet's operational performance, to stabilize and improve volumes in the short term. Positioning the freight system for success in the medium to long term, will require the implementation of the *roadmap, which is targeted at developing a more influential and impactful Transnet through harnessing partnerships with the private sector.* This is intended to unlock capital beyond Transnet's own balance sheet. *The plan decentralises risk without transferring ownership.* None of the proposed reforms requires relinquishing ownership. The objective is to grow volumes transported on the network, not to "divide up" the existing market.



Transnet restructuring, reorganization and repurpose

Michelle Phillips, Group Chief Executive,
Transnet SOC Ltd

Adv Michelle Phillips discussed the ongoing restructuring, reorganization, and repurposing of Transnet to align with the new demands of the industry. She provided a clear indication of where Transnet stands in implementing private sector participation in response to the National Freight Logistics Roadmap. She outlined the steps Transnet is taking to engage with the private sector, aiming to improve efficiency, enhance service delivery, and better position the company to meet the demands of the South African economy.

Several initiatives are being implemented at Transnet, in line with the National Freight Logistics Roadmap. The main objective is to ensure an efficient, reliable and sustainable freight logistics system that supports the country's economic growth and global competitiveness. These include continued focus on Improving operational efficiency and maintenance of the infrastructure; Building strong partnerships to foster innovation; Investment and shared growth; Continue to pursue opportunities for private sector partnerships; Develop mechanisms for concessioning parts of the network where appropriate and opportunities for availability-based infrastructure concessions; Establish Transnet National Ports Authority as a subsidiary of Transnet; Allocate capacity on the freight rail network and publish a timetable; Establish a rolling stock leasing company through a joint venture with Transnet Engineering; Establish the Infrastructure Manager as a subsidiary of Transnet; Release prospectus of low-density lines identified for closure and publish request for offers to purchase or subsidise those lines. In a nutshell, Transnet is setting up its operations for success.



Rail Reform, Regulations and Public – Private Partnerships as a key enabler to unlocking Rail transportation – A Case Study of USA, Brazil, India, Australia, China

Bernard Aritua, Lead Transport & Logistics Specialist, World Bank, Eastern and Southern Africa



Mr. Aritua shared an international perspective on rail reform, regulations, and public-private partnerships as key enablers of unlocking rail transportation potential. He shared lessons from case studies in the USA, Brazil, India, Australia, and China, offering valuable insights for South Africa’s rail reform journey. The key takeaways from his presentation was that, though there are lessons from other countries, there is No ‘cut & paste’ template for implementing Rail reform. Each country is unique, with its own challenges and rationale for implementing rail reform. South Africa needs a South African Solution to rail reform and PSP – not ideological but pragmatic view of macro-economic aspirations, taking into consideration the local context. The ‘Why?’ and ‘What?’ are clear from Freight Logistics Roadmap of South Africa. However, the ‘how?’ needs a lot of work and requires dedicated & empowered champions to coordinate and prioritize actions. This requires a supply chain view (pit to port), rather than an infrastructure view

Winning as a Rail Operator in the New Deregulated World – lessons from the Canadian Rail Experience.

Theo Sibiyi, Partner and Managing Director, Kearney Africa



Mr. Sibiyi shared lessons from the Canadian (CN) Rail experience in a deregulated world, which began in the 1990s. His talk focused on how rail operators can thrive in a competitive and evolving industry landscape by leveraging innovation, efficiency, and customer-centric strategies.

At the time of the turnaround, CN was faced with a number of challenges, many not too dissimilar to some we are faced with in South Africa and other African countries. They had high operating costs, significantly higher than their peers in the US. There was a culture of caution and limited bottom line, Excessive debt levels were crippling the organisation and customers were becoming increasingly demanding on many fronts. Over a period of 3 – 5 years what was achieved at CN was nothing short of spectacular. The success was achieved mainly focusing on 5 key levers: Customer orientation; Control of costs and labour productivity; Building a new culture; Review their pricing strategies and optimise them where possible; Implement significant technological changes to enable delivery against their ambitious goals. As a result, CN’s behaviour was transformed from the Executive level down to the shop floor; CN found the right balance between customer affordability and profitability to enable financial sustainability; CN implemented market leading technology, processes and systems to boost their operational efficiency customer satisfaction and competitive positioning. CN succeeded to reduce the Operating Ratio (Operating expenses as a % of Revenue) by 15% (1992-1997).

Role of business in enabling Government Business Partnerships.

Mxolisi Mgojo, President, Business Unity South Africa (BUSA)



Mr. Mgojo delivered an inspirational and motivational address as closure of the day. “We have been called to gather here to find breakthrough pathways and solutions that will transform and turnaround our industry. The country is suffering in a big way due to inefficient and unsafe rail operations. We are losing a lot of money everyday. This will have a huge negative impact even to the current jobs in other industries that rely on the freight logistics system. Now is the time for all of us to collaborate, work together, roll up our sleeves, get into the field and shape our industry for a better future. We owe this not only to us but most importantly to generations to come.”

Highlights of Day 2 Strategic Plenary: Heavy Haul Challenges and Opportunities

Welcoming Keynote

Ian Bird, Senior Executive, Transport & Logistics Focal Area, Business Unity South Africa (BUSA)

The day began with a warm welcome from **Mr. Bird**, Senior Executive at BUSA, setting the stage for a day filled with strategic discussions on the future of Heavy Haul. He emphasized the need for the entire Rail industry to work with Transnet to address the challenges faced and pave a way toward capturing additional opportunities that will grow the economy of the country.



Keynote Address

Mpumi Zikalala, CEO, Kumba Iron Ore

Ms Zikalala delivered a powerful keynote address, emphasizing the importance of public-private partnerships in growing the economy together. She highlighted how collaboration between sectors is key to unlocking new opportunities and driving sustainable growth in the Heavy Haul industry. "We all need to collaborate to get this right. The times for pointing fingers at each other are sadly gone. For us to get to the next level of performance and help grow our economy as a country is now and it has to be through collaboration."

"In the Iron Ore Corridor we have done the assessment of the line condition, in collaboration with Transnet. We now know what needs to be done to improve the Heavy Haul System. Now, let us get working."



Heavy Haul Logistics Value Chain: A Pit to Port Approach

Bennie Vorster, Regional Director, Hatch, Conference Silver Sponsor

Mr. Vorster emphasised that the Heavy Haul logistics value chain covers all activities in moving product from pit to port. The main objective is to achieve an integrated process of mining, beneficiation, loading and transporting to the port where the product is off-loaded, stored and loaded to ships for export. The success factors are: Participants need to optimize the entire value chain; Minimize delays and ensure timely delivery of commodities to global markets; Maximize installed capacity and optimize operating cost; the entire value chain needs to be stable, reliable and all elements needs to work in harmony; Maintenance of the various value chain elements needs to be managed in a pro-active manner to prevent equipment failures and associated delays.



Restoring Rail capacity in South Africa: A Transnet Freight Rail Operations view

Russell Baatjies, Chief Executive, Transnet Freight Rail

Mr Baatjies noted that operational challenges that led to a decline in volumes by 33% (2017 vs. 2023) are: Theft and Vandalism, Deteriorating Rail Network Condition, Locomotive Capacity, Insufficient Capital, Insufficient Rolling stock Maintenance and Organizational Debt Burden. Transnet's "Reinvent for Growth Strategy" aims to address operational challenges and improve execution of the mandate with renewed and focussed delivery against the three main focus areas: **FIX AND OPTIMISE THE BUSINESS**, which entails improving execution of the segment strategy approach to drive commercial returns across operations; **TRANSFORM THE BUSINESS** by implementing the key priority initiatives covered in the National Freight Logistics Roadmap and **GROW THE BUSINESS**. The introduction of Operational Excellence Centers at Transnet will drive operational efficiency and volumes in a structured and collaborative manner. Collaboration with the Private sector, through the National Logistics Crisis Committee, will provide a platform for all key stakeholders to contribute in the achievement of the operational turnaround.



Challenges, Successes and Long Term Solutions at Transnet Port Terminals

Jabu Mdaki, Chief Executive, Transnet Port Terminals



Mr Mdaki discussed the challenges and successes at Transnet’s port terminals, offering long-term solutions to enhance efficiency and capacity. The TPT recovery plan is driven by returning current equipment to service and acquisition of new equipment. TPT has so far placed an order for 47 rubber tyred gantry cranes, the first batch will be delivered in early December to support Durban Pier1 terminal. TPT has worked together with the stakeholders and shipping lines to secure the delivery of some of the urgent equipment like haulers, empty container handlers and reach stackers. TPT is on target to improve the containers handled in the terminals by 9% in this financial year industries, to 4,4m TEUs.

Thinking Differently about Rail Safety

Warren Wellbeloved, General Manager Rail, BHP, Australia, IHHA Director



Mr. Wellbeloved, General Manager Rail at BHP and IHHA Director, emphasized that thinking differently about safety requires an industry-wide approach. Focusing on Safety Energy rather than incidents requires (a) Setting up people for success (b) Sharing solutions across rail teams (c) Frontline engagement to keep people safe and (d) Exploring technology solutions.

Panel: Sustainable Heavy Haul

Moderator: Nosipho Siwisa–Damasane, Chairperson, RBCT
Panel Members:
Mike Teke, CEO, Seriti Resources; Mapaseka Lukhele, General Manager, Corporate Sustainability, Transnet SOC Ltd;
Ronnie Ntuli, Chairman, Thelo Group; Warren Wellbeloved, General Manager Rail, BHP, Australia, IHHA Director

The panel on sustainable heavy haul, moderated by **Ms Siwisa–Damasane**, Chairperson of RBCT, was a highlight of the day. Industry leaders from mining, rail operations, infrastructure development, and Heavy Haul discussed the importance of sustainability in shaping the future of Heavy Haul.

Sustainable Heavy Haul is critical to the achievement of a sustainable economy. The transport and mining sectors are undertaking initiatives to lead sustainable mobility through exploring partnerships in skills development, investment and sharing of resources.

Priority 1: For South Africa to remain competitive and sustainable globally, an efficient and sustainable heavy haul is required. This will promote the shift from road to rail for rail friendly cargo.

Priority 2: Opening the Rail industry for private operators to participate and invest in Rail will introduce the necessary competition that in turn facilitates and promote expansion of the rail capacity.

Priority 3: Transitioning into greener energy sources such as renewable energy.

A successful Transnet is critical for the economy. The transition to the open market must be done in a responsible way, to ensure that the country benefits from the implementation of the rail reform.



The role of Research and Development in shaping the future of Heavy Haul, USA experience

Kari Gonzales, President and CEO, MxV Rail, USA, IHHA Director

MxV (used to be called TICI), is the world's leading talent for rail research, consulting, training, and testing. Its strategic intent is to Move the Rail industry towards maximum safety, reliability, efficiency, and resiliency.

The Association of American Railroads (AAR)'s Strategic Research Initiatives Program is implemented by MxV through Advancing innovation by supporting vendors through the development cycle and encouraging the safe and reliable deployment of new technology.

The Strategic Research Program is Industry designed, approved, and funded. Amongst other things, MxV performs Laboratory testing & simulations, Controlled on-track testing and Monitored field testing. MxV has the latest, state of the art Facility for Accelerated Service Testing (FAST), regarded as the Premier Industry Test Bed, which is used to Increase the understanding of the effects of high tonnage and heavy axle loads on Accelerated track degradation and Mitigation strategies.

The FAST provides opportunities for both industry and commercial testing. American Railroads have enjoyed significant benefits from the implementation of the research program, such as 48% reduction in main accident rate since 2000, 59% reduction in employee injury rate since 2000, transporting around 40% of long-distance freight volumes.



Security National Logistics Crisis Committee - Progress update on Security Workstream

Ashwin Govind, Chief Security Officer, Transnet SOC Ltd & Major General Mzikayise Joseph Tyhalisi, SANDF Chief Director, Joint Operations Division

Mr Ashwyn outlined the problem statement as: Increasing threat of theft, destruction and vandalism of infrastructure presents dynamic challenges for the sustained and reliable delivery of freight services in South Africa. A Multi-Disciplinary Approach to address this challenge is being implemented. The first lever is the implementation of outcomes-based security contracts, moving towards providing 'solutions' instead of services. Transnet is now provided with an integrated solution, which incorporates manpower, technology and processes by various service providers. The second lever focuses on implementation of Technology Solutions. The third lever involves elevating the issues of theft and vandalism of critical infrastructure that Transnet is facing to the South African (national) security cluster, for appropriate state intervention. This is done through the National Logistics Crisis Committee, whose main role is to foster effective collaboration by key stakeholder such as SSA, NPA, SAPS, SANDF.



Highlights of Day 3 Strategic Plenary: Enabling Heavy Haul Success

Keynote: South African Economic Landscape – Business Perspective

Busisiwe Mavuso, CEO, Business Leadership South Africa (BLSA)

Ms Mavuso kicked off the day with an insightful keynote on the South African economic landscape from a business perspective. Her address focused on the critical role of business leadership in shaping economic growth and the strategic opportunities for Heavy Haul.

The network industries are the very basics you need to get right as a country for you to be functional, and for far too long SA has been failing at the basics and that has meant we have been underperforming as a country. It is therefore quite clear that for us to change our economic trajectory the network industries need to be the key areas of focus. Our growth strategy as a country has at the centre of it attracting R5trillion investment into the country and driving export led growth and I'm afraid that without functioning network industries, this will not be attainable. Without functioning network industries, it becomes difficult to try and reposition SA as a gateway to the African continent, our business case is weakened as a country, trying to position heavy haul for success will be impossible. Let us all get working to make South Africa work.



Open Access Framework and Progress to date

Thembi Lekganyane, Interim Infrastructure Manager, Transnet SOC Ltd

Ms Lekganyane emphasized that to unlock growth, the SA rail sector needs to invest capital into the rehabilitation of the network which will also support the introduction of private operators and reverse the decline in network quality and lost capacity due to historic underinvestment. An estimated R51bn is required over the 5-years to enable rehabilitation, as well as an additional R21bn for system replacements and other items that will enhance sustainability of the network. Bridging finance solutions are required to immediately provide funding for network stabilization and initiate rehabilitation, this bridging funding will over time be replaced by more sustainable funding generated through operations (user charges) and through various private sector partnerships. Progress has been made by Transnet in implementing the Rail reform, and includes Establishment of an Interim Infrastructure Manager Office, Draft interim Network Statement published on Transnet Website, IRERC consultation with key stakeholders and Transnet, Transnet update Network statement subject to IRERC's final recommendation of Access Tariff and Network Statement. Transnet is working towards the full establishment of the Infrastructure Manager and Commencement of operations for successful slots applicants by April 2025.



Panel:
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

Implementing a third-party access policy for freight rail will allow private rail operators to have access to the freight rail network, while paying an access fee to Transnet as the owner of the infrastructure. The reform will also enable massive new investment in freight rail by private companies and should increase the volume of goods that can be transported via rail instead of road. This will in turn reduce congestion on major highways and improve road conditions.

Clearly, this will require higher levels of collaboration by a number of stakeholders, including Transnet, private operators, private sector, business community, funders, government, etc.

One of key success factors towards ensuring a successful freight Rail system in the country through implementation of the Rail reform is to ensure that the Rail Network condition is significantly improved, and its critical areas renewed. This needs to be the top priority. Public-Private sector participation models for investment can be explored, as Transnet is not able to fund the entire infrastructure programme. Private operators are keen to gain access to the Rail network, however, it was made very clear that a successful Transnet under the reformed era is as equally important to the country. Benchmarking for lessons from other countries that have implemented Rail reform should be done constantly.



Panel:
Promoting Rail Research in South Africa

Moderator: Theo Sibiya, Partner and Managing Director, Kearney Africa
Panel Members:
Prof. Pilate Moyo, University of Cape Town, Board Member, SAHHA; Prof. Hannes Grabe, University of Pretoria; Mesham Sivnarain, Chief Engineer, Product Systems Development, Transnet Engineering; Dr Sandile Malinga, Group Executive: Smart Society, CSIR

The siloed nature of railway research in South Africa is a significant challenge. Without a centralized body to coordinate and integrate research efforts, there is a risk of duplication, inefficiency, and missed opportunities for **collaboration and knowledge sharing**. Individual efforts require an **overarching strategy** to bring about **coordination**, so that we can bridge the gap between what is **currently being done** against the **technical and technological** needs of the industry and country. A strong **value chain / ecosystem** between research bodies, policy makers, private sector and government is critical for targeted and meaningful research.



Advancing the Engineering Profession in South Africa

Admund Nxumalo, Executive at the Engineering Council of South Africa (ECSA)

Admund Nxumalo Executive at the Engineering Council of South Africa (ECSA), delivered a presentation on Advancing the Engineering Profession in South Africa, focusing on regulatory and international relations efforts to enhance the engineering field. It is vital that our Engineers and Technicians register as Professional with ECSA. ECSA has provided this platform for many years and is further improving the quality of technical skills in the country.



Railway Safety Regulator's role in the transformed Rail logistics System

Nompumelelo Ekeke, Chairperson, Railway Safety Regulator (RSR)

RSR's vision is to oversee and promote safe railway operations through appropriate support, monitoring and enforcement, guided by an enabling regulatory framework. The Main functions of RSR are: Issuing of safety permit for operation, Conducting research on industry issues, Enforcements in relation to safety compliance, Approval of technical submissions on new works and technologies, Conducting audits on the Safety Management Systems of operators and inspection of the operator environment, Annually issuing the state of safety report on the safety of persons and the environment. Chapter 4 of the Act states: "A person may not undertake any railway operation or a component of railway operation without being in possession of an applicable safety permit." New operators who want to take the advantage presented by "open access" can submit their permit application to RSR, and RSR will process them timeously and efficiently.



HIGHLIGHTS OF THE TECHNICAL PARALLEL SESSIONS

SAHHA 2024 expanded the scope of the technical programme to include train loading and off-loading in line with SAHHA's pit-to-port mandate. One hundred forty-six (146) abstracts were received, of which 95 were accepted for oral presentation, 40 were accepted for poster presentations, and 13 were rejected. Of the 90 abstracts accepted for oral presentation, fifty-five (55) papers were submitted, of which fifty-one (51) were accepted for publication and four (4) were rejected. In the final programme, 50 technical papers were presented in 16 parallel sessions. The thorough and rigorous review of submissions ensured that SAHHA 2024 remains at the cutting edge of technical development in the heavy haul industry, providing a complete picture of the heavy haul operations from pit to port.

Summary of technical paper submissions: SAHHA 2024

146

Total number of abstracts submitted

95

Accepted for oral presentation

40

Accepted for poster presentation

Accepted abstracts and accepted full papers

	Accepted
3. Track	12
1. Rolling Stock	10
5. Telecommunications, Trains Authorisation Systems & Conditions Assessments	8
6. Electrical Systems	8
11. Artificial Intelligence	7
2. Vehicle Track Interaction Systems	7
9. Rail Operations Execution	7
14. Sustainability	6
4. Manufacturing	6
10. Network Capacity	5
12. Safety & 13. Security	5
7. Bridges & Culverts & Structures	5
16. Train Loading operations and equipment	4
15. Human Factors	3
8. Train Planning & Scheduling	2
TOTAL:	95

Accepted for poster presentation

	Accepted
10. Network Capacity	2
11. Artificial Intelligence	2
12. Safety	4
13. Security	2
14. Sustainability	4
16. Train Loading Operations & Equipment	1
17. Train off-loading Operations & Equipment	2
2. Vehicle Track Interaction Systems	2
3. Track	7
4. Manufacturing	1
5. Telecommunications, Trains Authorisation Systems & Conditions Assessments	4
6. Electrical Systems	3
8. Train planning & Scheduling	2
9. Rail Operations Execution	4
Total	40

HIGHLIGHTS OF THE TECHNICAL WORKSHOP PROCEEDINGS

The Technical Workshop at the SAHHA Conference 2024 featured a total of 450 minutes of Heavy Haul lectures, attended by 92 delegates representing 32 organizations. Participants engaged in discussions across 9 distinct topics. The event produced an impressive 487 pages of content.

The workshop covered a broad range of topics focused on materials, maintenance strategies, and innovations in railway asset management. The importance of material quality inspections and the use of advanced lightweight materials were emphasized to enhance the performance and durability of railway components. Sessions also highlighted the need for effective maintenance strategies to address challenges like resource underutilization, obsolete assets, and long lead times for OEM spares. Proper material selection and inspection methods, including non-destructive testing, were presented as essential for ensuring asset reliability.

In terms of port and rail infrastructure as well as rolling stock maintenance, the workshop addressed the criticality of routine preventative measures and compliance with standards. Detailed discussions on asset life-cycle management and track maintenance planning underscored the importance of scheduling, condition monitoring, and collaboration with service providers. The integration of technology, such as AI and digital twinning, was seen as a game-changer for optimizing maintenance intervals and reducing operational costs.

The final topics focused on innovations in railway asset management, including the role of data analytics and smart technologies in improving safety and operational efficiency. Cross-functional collaboration in train design, the adoption of regulatory frameworks, and continuous improvement strategies were highlighted as key drivers for maximizing slot capacity and ensuring system sustainability. The need for industry collaboration and skills development was also recognized as a critical enabler to ensure adoption of future technologies and methods in asset management.

Additionally, Dr Emma Molobi from Transnet Freight Rail was recognized as the Best Workshop Presenter, underscoring the high quality of presentations and discussions throughout the workshop.

SAHHA AWARDS

Eagle Award – Brian Monakali

Brian Monakali was awarded a prestigious award: “The Eagle Award” by SAHHA. This award recognizes Brian’s significant contribution to Heavy Haul Technology, Innovation and Engineering advancements locally and abroad. He has been pioneering Heavy Haul Rail for more than 13 years. Several times he occupied Chairmanship roles at the International Heavy Haul Association (IHHA) and provided strategic direction and focus to the association. In his role as Chairman of IHHA, he spearheaded the development of the Global Heavy Haul Vision 2030, which was launched and published in 2023 at the IHHA conference in Brazil. He led the founding of SAHHA. Leveraging on the platform of SAHHA and IHHA, Brian takes pride in his significant contribution to the development and empowerment of Rail professionals into future leaders.



Leadership Award – Hannes Gräbe

Professor Hannes Gräbe Professor Hannes Gräbe was awarded: the “Leadership Award”. This is in recognition of his outstanding contribution in Heavy Haul Rail. Prof. Gräbe is full professor and Head of the Department of Civil Engineering in the Faculty of Engineering, the Built Environment and Information Technology (EBIT) at the University of Pretoria. He holds the Chair in Railway Safety, sponsored by the Railway Safety Regulator and previously the Chair in Railway Engineering, sponsored by Transnet Freight Rail. From the start of his career at Transnet to the current role he is playing at the university for Pretoria, Prof Grabe consistently drives technical advancement in the area of civil engineering, and has significantly contributed to the development of engineers to become professionals and responsible citizens through development of innovations that progress our country. He has written and published a number of technical papers on academic research and innovation, with a number of them serving at international conferences and journals.



Best Workshop Presenter Award – Dr Emma Molobi

Dr Emma Molobi was Awarded an award of: Best Technical Workshop Presenter, recognizing the high quality of her presentation and positive feedback from attendees. Dr. Emma Molobi is a Principal Engineer within Transnet Freight Rail, Technology Management with over 10 years experience in the railway industry. Her expertise are in Metallurgical and Materials Engineering. She is a certified International Welding Engineer with the International Institute of Welding and a registered Professional Engineer with ECSA. She is committed to drive change and advancement in the engineering and railway industry and serves as a South African chapter ambassador for Women in 3D printing, a member of the South African Institute of Mining and Metallurgy and a U.S State of Department TechWomen Fellow. She previously served as the Steering Committee member of the International Wheelset Congress.



Outstanding Rail Professional Award

This award recognises those individuals who came up with an innovative idea and solution that if implemented has a potential to significantly improve efficiency and or safety of the Heavy Haul Rail system or part of the system.

Paper title: Addressing rapid loading challenges of new locomotives at mines: a case study by Transnet Freight Rail.

S. Tladi, Transnet Freight Rail



Paper title: Assessing track ballast durability: morphological changes in Los Angeles (LA) abrasion tests using enhanced aggregate image analyzer

Gculisile Mvelase, Council for Scientific and Industrial Research (CSIR)

Nonzwakazi Ncolosi, Merchelle's Collective Engineering Consultant

Jeffrey Ngozo, Transnet Freight Rail



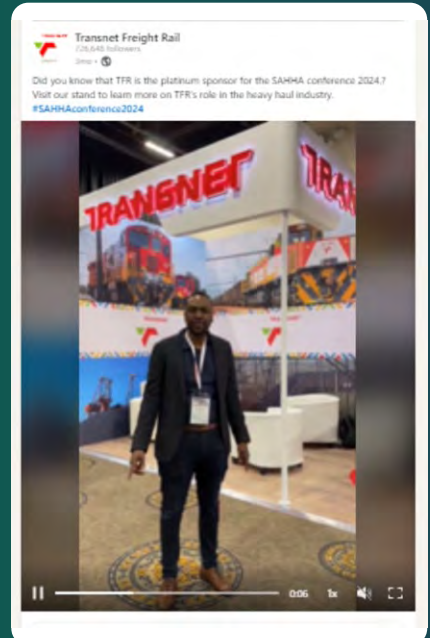
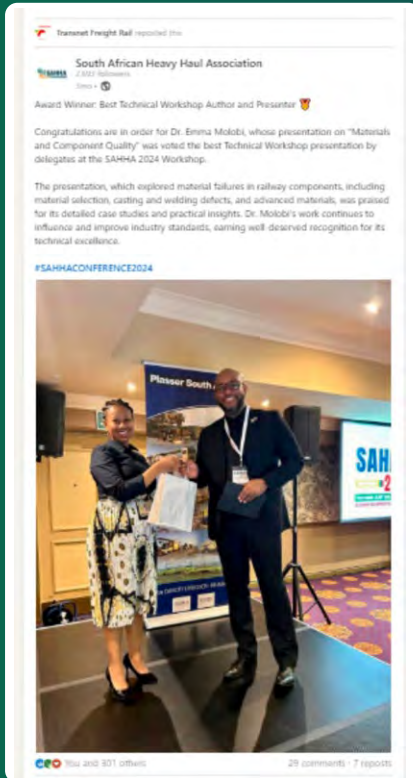
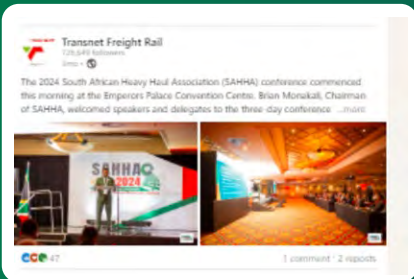
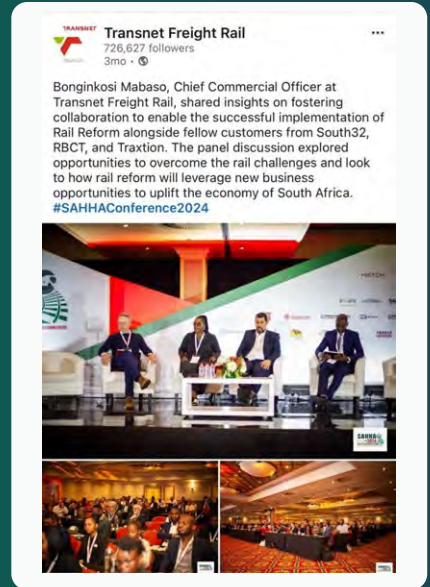
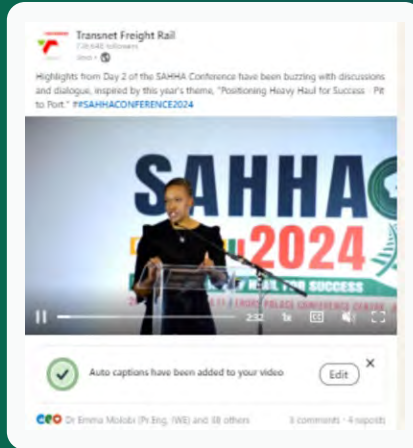
Best Technical Paper Award

Session and Title	Author
Session A2: Ore corridor rail performance	Mayvyn Bhana
Session A5: Impact of rounded ballast on ballast screening effectiveness for sustained track geometry improvement on the Orelines: a case study by TFR:	Rudzani Makhani
Session A6: Condition assessment methods for concrete sleepers: Feasibility for large-scale South African applications	Astrid Lambrechts
Session C3: Improving traction network efficiency by optimising power returned from locomotives on AC networks	Theolen Chetty
Session D5: Sensitivity analysis on railway supply chain for pit-to-port operations	Christian De Charmoy

PLENARY SESSIONS



TRANSNET SOCIAL MEDIA HIGHLIGHTS



RAILWAYS AFRICA MEDIA HIGHLIGHTS



Transnet's Vision for a Competitive Future

At the recent South African Heavy Haul Association (SAHHA) conference, Michelle Phillips, Transnet Group Chief Executive Officer, outlined Transnet's vision for the future. In her address, Phillips emphasised that the focus should not solely be on the challenges facing the state-owned enterprise but rather on the strategic steps being taken to...

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Transnet's Path to Recovery - Strategic Reforms and Operational Enhancements Outlined at the 2024 SAHHA Conference

At the 2024 South African Heavy Haul Association (SAHHA) Conference, Mr Andile Hesperus Sangqu, Chairperson of Transnet, outlined the company's strategic priorities and the critical challenges it faces.

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Optimising Heavy Haul Logistics - A Global Perspective on Pit-to-Port Challenges

In a recent presentation at the Southern African Heavy Haul Association (SAHHA) event, Bennie Vorster, Regional Director of Rail & Transit for Hatch, highlighted the evolving challenges and complexities of heavy haul logistics from pit to port. The discussion centred around how global shifts, including financial changes, commodity price fluctuations, and disruptions such as COVID-19, are influencing the industry. Vorster emphasised that despite these challenges, the focus should be on forward-looking strategies to optimise supply chains and enhance competitiveness in the global market.

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APPROACH TO ASSESSING THE CONDITION OF A RAILWAY SYSTEM

To measure condition capacity a risk-based condition assessment approach is required to prioritise remedial effort.

There is a common challenge amongst heavy haul owners, infrastructure owners and operators to measure the condition of their assets. The condition index is a key metric used to assess the health of the asset and to prioritise remedial effort. The condition index is a risk-based metric that takes into account the severity of the condition and the potential consequences of failure. The condition index is a key metric used to assess the health of the asset and to prioritise remedial effort.

Figure 1: Status of the asset regarding the condition index. The asset is in a 'Good' condition.

Approach to Assessing the Condition of a Railway System: Insights from Anneri Robinson of Hatch at the SAHHA Event

At the recent South African Heavy Haul Association (SAHHA) conference and exhibition, our editor, Phillippa Dean, had the...

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Turning the Tide: How Transnet Freight Rail Plans to Overcome Challenges and Drive Future Growth

At the recent South African Heavy Haul Association (SAHHA) conference, Russell Baatjies, CEO of Transnet Freight Rail (TFR), gave...

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Transnet's Vision for a Competitive Future



At the recent South African Heavy Haul Association (SAHHA) conference, Michelle Phillips, Transnet Group Chief Executive Officer, outlined Transnet's vision for the future. In her address, Phillips emphasised that the focus should not solely be on the challenges facing the state-owned enterprise but rather on the strategic steps being taken to transform and revitalise the organisation. Transnet, as the custodian of South Africa's transport and logistics network, is pivotal to the country's competitiveness and economic growth. Phillips highlighted the critical role Transnet plays in reducing the cost of doing business in South Africa, a mandate that guides their strategy and operations.



Emalo Yard - Photo: Railways Africa / Craig Dean

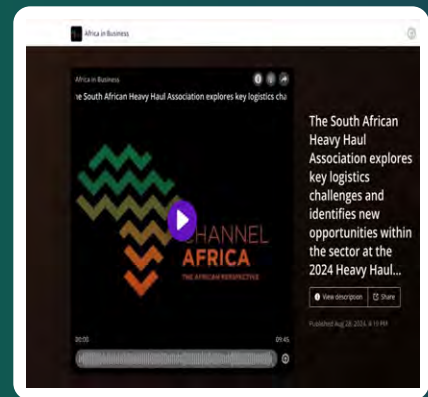
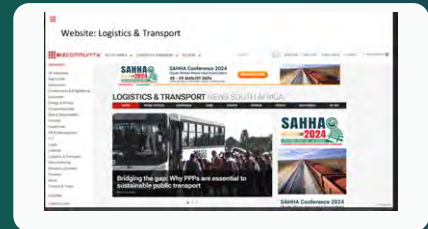
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The South African Heavy Haul Association (SAHHA) Unveils Technical and Strategic Direction to Position Rail Transport and Pit-to-Port Logistics for Success



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SAHHA Conference 2024: Exciting programme gighlights revealed

Issued by SAHHA Conference

2 Aug 2024

With the SAHHA Conference just around the corner, anticipation is building for this landmark event in the Heavy Haul industry. Taking place from 26 to 29 August 2024 at the Emperors Palace Conference Centre, the conference will explore the theme "Positioning Heavy Haul for Success - from Pit to Port." Attendees can look forward to a dynamic programme packed with insightful sessions, expert speakers, and invaluable networking opportunities.



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WELCOME COCKTAIL

Tuesday, 27 August 2024

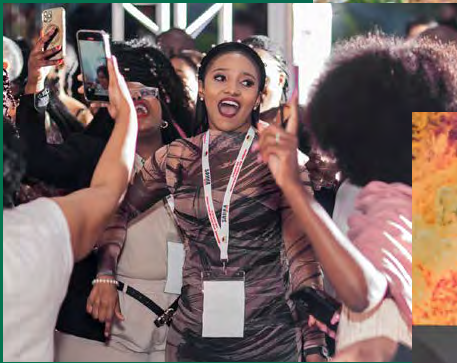


GALA DINNER

Wednesday, 28 August 2024



Gala Dinner (continued)



CLOSING FAREWELL COCKTAIL FUNCTION

Thursday, 29 August 2024

