

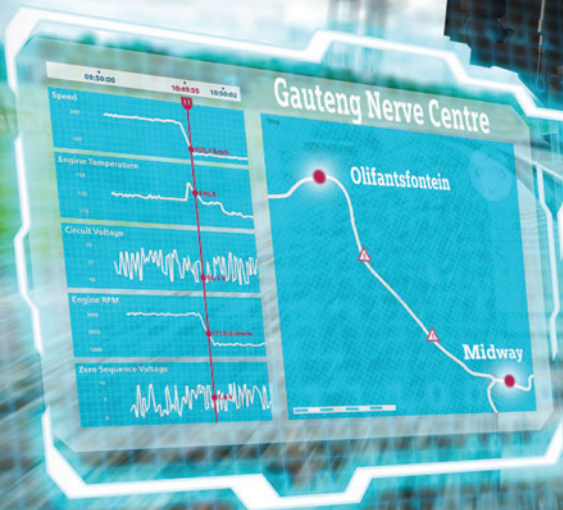
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ISSUE 1:2018

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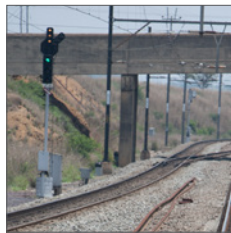
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# This Issue: Highlights

**PASSENGER RAIL**DELIVERING  
EFFICIENT  
PASSENGER  
SERVICES**04****SIGNALLING**THE IRSE WANTS  
TO HELP TURN  
YOU INTO AN  
EVEN BETTER  
RAIL ENGINEER**08****RAIL SAFETY**THE REALITY RAIL  
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Two serious train accidents, occurring just days apart in early January, propelling rail safety in South Africa into one of the most hotly debated issues of the new year. And rightly so. Proactive action has to be taken by all rail stakeholders if we are to develop effective strategies to combat the myriad of issues our beleaguered national rail environment currently faces - namely the wanton theft and criminality that constantly grinds our rail network to a halt, the general lack of safety and the lowering of professional standards in the industry.

Fortunately, as bleak as the situation may seem right now, light is starting to appear at the end of the tunnel. Industry players are beginning to put their differences aside and heads together in order to come up with pragmatic solutions. Granted, the process has just begun, but it's definitely a move in the right direction. Rail can so easily become the economic driver that unlocks our country's potential. And, as such, Railways Africa supports any initiative that works towards making this become a reality.

With this in mind, our first issue of 2018 is dedicated to the rail safety debate. We spoke to rail specialist Kevin Pillay, Siemens Vice President Mobility Division South Africa, on his thoughts on what factors the African continent, including South

Africa, needs to concentrate on to deliver efficient passenger services going forward. Unsurprisingly, here at home, his main concern is the unprecedented levels of crime that are undermining the rail industry's efforts to improve the situation for commuters.

The Institution of Railway Signal Engineers (IRSE) - a non-profit professional institution for employees engaged in or associated with railway signalling and telecommunications - is extremely concerned about the slipping professional standards in the rail industry and non-adherence to established safety practices. As a result, they have named their new focus for 2018 "Closing the Skills Gap" and are calling on all rail professionals to get involved.

To get a workers' perspective on the situation, we spoke to United National Transport Union (UNTU) General Secretary, Steve Harris. In his interview, he paints a bleak picture when illustrating how the combination of ageing rolling stock and criminality is negatively impacting rail workers on the ground. Harris then discusses some of the inefficient operational procedures he believes need changing for the rail industry to become more efficient and improve working conditions for his members. Finally, he explains exactly why the manual authorisation of trains cause

such long delays, and calls for the understanding of both commuters and employers alike.

We wrap up our safety focus with the Rail Safety Regulator's board chairperson, Dr Nomusa Zethu Qunta, where she shares some of the issues that concern her when it comes to the lack of a rail safety culture in South Africa. She firmly believes that all rail stakeholders need to forge closer working relationships with each other so they can collaborate on common issues more effectively. And the good news, she says, is that this is starting to happen.

And, as always, we bring you a good dose of continental rail news to help keep you updated on all the latest industry developments. Speaking of which, do yourself a favour and check out all the transport-related feedback contained in the recently released Programme for Infrastructure Development in Africa (PIDA) Implementation Progress Report 2017. This extensive report spells out the state of all big infrastructure projects on the continent and is well worth the read.

The editorial theme for our next issue will be Track Infrastructure and, as always, you are invited to send us your submissions.

*Phillippa Dean*

Phillippa Dean  
Railways Africa™ - Editor

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# Delivering Efficient Passenger Services

Following a series of fatal accidents at the start of the new year, the Railways Africa team met up with Kevin Pillay, Siemens Vice President Mobility Division South East Africa, to get his impressions on the situation.

Kevin is no stranger to the rail industry on the African continent, nor the international market. Having worked for the company for around 20 years, he holds a Masters Degree from the University of Witwatersrand having first worked as an engineer, then project manager for years before switching over to more managerial roles. Siemens is also a world leader when it comes to providing rolling stock, signalling systems, as well as a host of additional value-adding services for the rail sector globally.



Kevin Pillay, Siemens Vice President Mobility Division South East Africa

## The state of Passenger Services in SA:

With the investment into heavy haul freight lines that took place in the mid-1900's, we were lucky that much of South Africa's base infrastructure we use today got this start. Currently, South Africa has about 25,000km of track - making it the most developed network in Africa. Unfortunately, most of it is over 30 years old and, due to a lack of proper maintenance, is in a bad state.

In recent months, I don't think that there has been a day where rail service challenges have not made the news. Either a fatal accident, in most instances as a result of theft of safety critical equipment, such as cables or passengers threatening drivers as a result of their frustration in the lack of service delivery. Unfortunately this is a lose-lose situation. The more rolling stock damaged the less there is available to keep up with demand and this, coupled with the theft rendering the service inoperable, almost surely puts us in the situation where there is nothing but a failed service.

### What should the service look like?

The modernisation of passenger services in South Africa began many years ago, and PRASA has a number of projects at various stages of implementation that will make the movement of people by rail inline with other world standards. Having just spent the December holidays with my family in Europe, I made it my mission to move around strictly by rail. Something that we should be able to do here in Africa. What I found was a civilised and efficient service. In fact, through the entire journey

between four countries, we experienced only one technical issue, which was resolved within 40 minutes on one of the high speed lines.

PRASA is on its way in terms of plans and projects to achieve the same type of service delivery here in South Africa with the exception of a few fundamental issues, which, in part, are outside of their full control. Then again, some just relate to the slow, drawn out process of getting to the end state.

### What do you mean by slow and drawn out process?

Generally speaking, like all projects, the planning and feasibility aspects take many years. Governments come and go, and passengers services such as what we have here, be it PRASA or Guatrain, require not just financing to be built but also on going funding and, more importantly, strong political support.

Unlike the freight environment - such as Transnet that is financed in most part, off its own balance sheet - the movement of people is

considered a social service and is heavily subsidised by government. When that balance sheet is under pressure, reinvestment is obviously protracted. In addition, one has to find a business model that works. At the end of the day, the delivery of services such as these need to be sustainable to a point of offering the bankability around the projects for funders.

### What do you think are the fundamental issues facing the smooth delivery of passenger services in South Africa?

The main fundamental issue threatening to “derail” the successful implementation of these projects, as far as I can see, is the unprecedented levels of crime currently crippling our national railway system. Every day, we lose millions of rand in assets and productivity due to this scourge. Acts range from copper cable theft, to the vandalising of trains and the removal of crucial infrastructure equipment along the trackside.

Even though several methods of vandal proofing are being implemented, it is a field day for criminals right now as the national rail network, due to its terrain and expanse, is not being adequately policed.

I understand it is not possible to patrol entire lines, our country is just too vast. But surely railway property must be restricted to public access, except at places like station areas and designated rail crossings. We desperately need some stringent laws to govern this, and the enforcement should act hand in hand with the law, as soon as possible.

### What is the Safety and Efficiency impact?

From an efficiency perspective, if we want to decrease our head ways (i.e. the timing between trains running on the same line) to deliver a more frequent service, then we need to increase our speeds and number of trains. But for this to happen, we need the tracks to be fully available and safe at all times. However, until the wanton theft and vandalism of rail infrastructure is brought under control, this can never happen easily.

Currently, trains travel at approximately 80km/h. Once the modern infrastructure is in place and the new trains become available, there is no reason why we cannot expect speeds of 120 km/h, or even up to 160km/h with some tweaks and a few design changes made to the system.

My point is that the new trains can do it and the upgraded signalling systems currently being installed has the capability. The only real practical limitation lies in the current track alignments and having them cleared for trains to travel at higher speeds.

### Where are we at currently and why is it going wrong?

In a modern rail environment, gone are the days where rail personnel manually switch lines and control the direction of trains. Electricity coupled with advanced technology does all the heavy work, powering solenoids, for example, to switch the tracks.

On the infrastructure side, the new automation systems being installed use sensory equipment

to monitor and control the train via a process of sophisticated interlocked algorithms. Because of their inter-connected nature, there can be no interference to any of the components making up these systems.

But that is exactly what happened in some of the accidents we have seen of late. The signalling system is either vandalised or damaged and, as a result, the integrity of the system is compromised. This forces operators to manually authorise trains through “blind” sections of line.

In other words, the control centre has to communicate with the drivers verbally and complete a significant amount of paperwork to manoeuvre trains safely through the network.

As you can imagine, this process is prone to errors and can, in fact, be incredibly stressful for the operators and drivers themselves. So, I come back to my main point again – there is a very real need to properly address the theft and vandalism that, at this rate, will cripple a good system.

Resolving these issues will be a significant leap towards modernisation becoming a reality.

### Are we stuck in a wash, rinse, repeat exercise in their efforts to fix or resolve the issues?

Operators like PRASA are spending a lot of money and effort on trying to improve their service, but you would never say so. They are in the process of installing new signalling systems in Gauteng, Durban and Cape Town with GSM-R, the global radio standard for rail and the backbone of ETCS (European Train Control System).

But when infrastructure theft removes critical components or causes the power to go out, they are literally stuck. The unfortunate part is they then get lambasted by everyone for their terrible service, however this type of criminality is beyond the operator’s control.

Because the new trains coming feature the onboard equipment required for ETCS to work and, as the Eurobalises – passive units that determine a train’s exact position – fitted to the lines’ sleepers require no power, there is nothing of value for anyone to steal. However, that doesn’t stop blatant vandalism. From our side, we are busy modifying them to suit local requirements and, at the same time, looking at innovative digital solutions complying with SIL4, which will allow us to remove trackside equipment altogether.

### Why is ETCS so indispensable for modern rail?

In an ever growing world, rail transportation is becoming more and more complex. Lead times between trains are shortening and rail networks are hitting certain capacity limits.

That said, safe signalling systems for rail networks are designed to guide and assist the train driver, much like traffic lights and road signs do for traffic. However, they still rely heavily on the train driver for input, just like our cars do when we turn the steering wheel or brake. All trains in South Africa are fitted with a Dead Man’s Switch that drivers have to regularly press to show they remain alert. But it is still so easy to miss a signal by mistake.

Because of this, the likelihood of an accident happening is still very real. Speeding, passing a red signal or even travelling without valid authority are the most common causes for the serious accidents our country experiences. An automatic train protection system brings the odds of an accident happening down dramatically, simply because the human element is minimised.

ETCS, or European Train Control System, is an automatic train protection system which acts as a safety overlay to existing interlocking based signalling systems. It was initially developed in the European Union as a way to standardise the diverse signalling structures throughout Europe to allow for cross border train operations. At the time, this was considered such a pressing issue, competition was put aside and its development was undertaken by the entire rail industry.

The end result was so successful, that ETCS is now considered a viable solution globally when it comes to safe, interconnected rail operations - and has led to many success stories in other regions of the world where countries have adopted the European model.

### We have spoken about technology and clever systems, what does it really mean for the commuter and the operator?

Customer service, getting to work on time, moving around the city, safely, and quickly at higher speeds, as well as the reliability of the services. For operators, it not only means operational efficiency, but also the

ability to retain and attract customers which impacts the subsidy aspect.

### Can I have your opinion on the factors hindering the implementation of rail on the African continent?

No one questions the pressing need for a connected freight and/or passenger railway network in Africa. However, railway projects are extremely capital intensive and thus require long term investments. And, because of this, they require some form of governmental subsidy or guarantee to sustain the investment. In my mind, these are the prime reasons why

rail has struggled to get off the ground on the African continent.

For me, the main blocking point for the future development of a healthy continental rail network is the generation of proper business models. They must accurately predict freight volumes or passenger through puts in order to generate realistic tariffs and feasible payback periods. This is the only way to convince finance institutions and governments to invest.

The best way for rail on the continent to reach its potential is to pragmatically see the full railway development strategy for the next 5

- 10 year period through to fruition. That means securing the investment, planning properly and then rolling out these projects in a sequenced and monitored way. These are the same process that will help develop the market value chain, not to mention the railway operators themselves.

Of course, this is all driven by innovative technology-based solutions that are proven safe and developed to last the next 20 years. Not only that, I believe the thinking is there, and the will to build a proud legacy is apparent in the many people working in the rail industry today.

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## Why is moving towards an automated future so important for rail on the continent?

In modernised railways, especially those in Europe, systems like ETCS provide more constant communication between the train and the track, allowing for more automated control of the train.

This is extremely important, especially when higher speeds are involved. Think about it: If a train travelling at 80km/h - the norm in South Africa - takes about 1km to stop, how much distance would it require if you were doing 250km/h? When you need to stop, or react to

a situation, at these kind of speeds you not only need plenty of warning, but a sophisticated computerised system that can work out all the variables fast and do all the work for you. The bottom line is human reactions are just too slow and subject to errors.

Examples of what they can do include automatic speed restrictions when passing through station areas or working zones, and compulsory stops at red signals. These systems can also be implemented relatively quickly. In fact, they have already been trialled and tested on our local network. Once implemented, ETCS will not only help reduce the possibility of driver

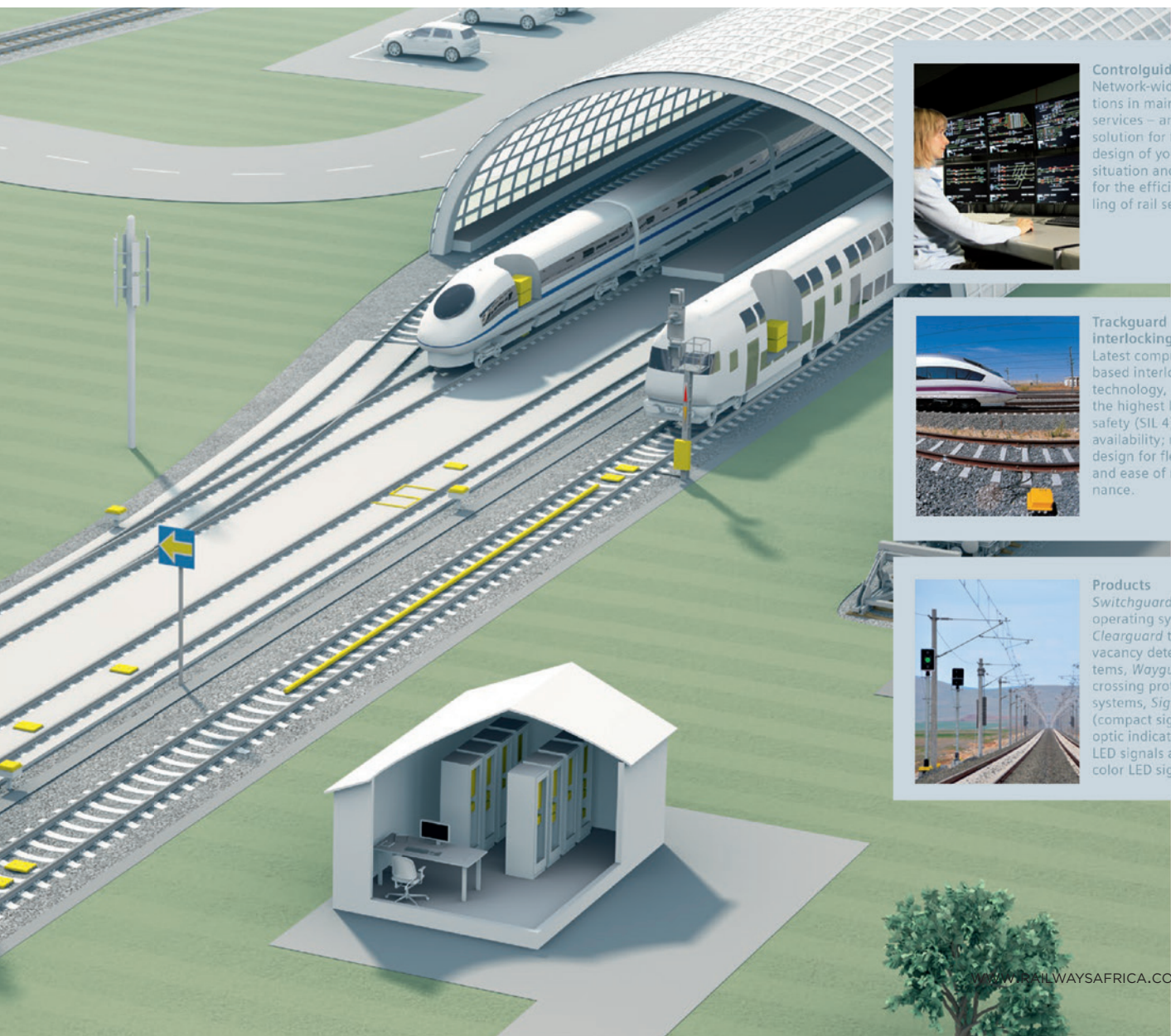
errors, but also cut down the amount of line side equipment required, which will go a long way to help minimise the theft and vandalism problem.

In principle, South Africa's rail modernisation programme caters for a Safety Integrity Level 4 (SIL4) signalling system, which can easily be overlaid with an ETCS system. The new trains are more than capable of travelling at 120 km/h, and come equipped with the required ETCS components installed. And, if the electrical and track infrastructure is given another modest upgrade, even speeds of 160 km/h could be possible in the short term.

## In closing

I for one am really looking forward to one day travelling through Africa in the same manner that my family and I recently traversed Europe, comfortably, efficiently and most importantly safely.

In addition, travel by train, irrespective of whether it's just to get to work or for pleasure, is a service that everyone from every walk of life should have access to in an affordable way. Internationally rail is the preferred mode of transport, used by everyone because it is reliable, safe and efficient, and this is without a doubt possible in South Africa and in Africa.



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# The IRSE Wants To Help Turn You Into An Even Better Rail Engineer

The Institution Of Railway Signal Engineers Exists To Give The Right Kind Of Support.

The South African Section of the Institution Of Railway Signal Engineers (IRSE) has been in existence since the early 1980's, but until now it has quietly concentrated on augmenting the professional careers of its members. But now the IRSE aims to shift its focus. It realises that, because of the prevalent dropping of professional standards evident across the entire rail sector, now is the time for it to stand up, join the conversation and do its utmost to make a positive contribution to the health and longevity of the local signalling industry.

Most engineers I know are not the kind of people who enjoy standing on soapboxes and shouting their indignation to the crowds. Instead they tend to shrug their shoulders at politicians, roll their eyes behind the backs of bosses and just knuckle-down to getting the job done. The South African Section of the IRSE now has new committee members and, as a result, this has prompted a complete rethink regarding how the Institution goes about doing things.

## Where Has All The Expertise Gone?

According to the IRSE, the main reason for this is relatively simple: With older engineers retiring from the profession in ever increasing numbers, and young engineers entering the industry that have not been exposed to the hard-earned wisdom that only years in the field can provide, this is inevitable. Essentially, the natural transference of skills – a veritable tradition almost as old as time – is no longer happening. Quite rightly, the IRSE's new committee strongly believes that this must change. As a result, they have named their new focus, rather aptly "Closing The Skills Gap".

Even better, the IRSE is not just saying this, it is living it – and its new committee reflects this. On the one hand, you have the new committee chairperson, Portia Xaba-Nkuna, a relative newcomer to the industry (although she's been around for 13 years). And on the other, you have honorary secretary Ryan Gould, an experienced veteran who entered the profession back in 1976 and doesn't have long left before retirement. The remainder of the eight-member committee also comprises a mix of young and old members, each bringing



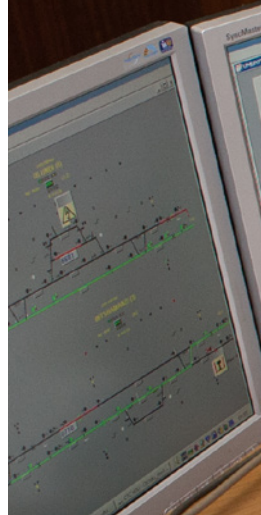
unique and diverse contributions to the committee to create the perfect balance.

"We came to the realisation that our traditional monthly meetings were no longer sufficient for what we need to achieve regarding rail safety going forward," explains Xaba-Nkuna. "So we decided to create a strategy to ensure our role as the IRSE becomes pivotal throughout the rail sector. We are also reaching out to all our colleagues in neighbouring SADC countries, encouraging them to join us and get involved."

## Why Established Safety Practices Melted Away

To understand why safety standards have become so compromised, we need to understand how the rail industry operated in the past compared to what is happening now. This is where Gould steps in. For him, with his 42 years of experience in the South African rail industry, this is not a history lesson, but a deteriorating situation he has lived through.

"When I started out, there was no such thing as an independent regulatory body overseeing rail safety. The owner/operators were responsible to take care of safe practice and procedures themselves," recounts Gould. "The knowledge of, and dedication to, safety became eroded with the exodus of knowledgeable and skilled staff, compounded by the relatively low intake and development of new entrants. The independent regulatory body is a relative new development in the industry. All the safety standards and operational procedures developed in the rail sector largely came from the owner/operators, having evolved from the days of steam to what we have today. What the new regulatory bodies around the world have done is adopt and adapt what previously existed and to enhance and refine this to create the independent safety standards and procedures that currently exist and need to be implemented by the owner/operators."





In those days, he points out, augmented by the tendency for long-term employment, the safety standards and procedures were well understood and practised by everyone. Any shortcomings were generally dealt with from within, but not always. However, eventually the general realisation emerged from inside the industry that “being the referee and player was a bad idea” – this is where our current regulatory bodies originated from.

“An unintended consequence of this decision to split roles, compounded by the outflow of knowledge, skills and experience, has been that the commitment and responsibility to enforce these established safety standards and norms has become diluted and unclear throughout the industry,” he observes. “We now find ourselves in a difficult situation, and the IRSE has become very concerned. Something has to be done to rectify the situation.”

Xaba-Nkuna interjects, completely agreeing with her colleague. “Operators and rail contractors may think the responsibility for safety has moved out of their domains, but this is not so. They bear the sole responsibility for implementing safety procedures and sticking to them,” she says.

### Fixing The Problem

The way the IRSE sees it, it is mainly these two reasons – namely, no transfer of skills and best practices from one generation to the next, and a general decline in attitudes towards safety – that are the prime causes for

the professional crisis our rail sector finds itself in today. And the only solution that they can come up with right now is for them to just roll up their sleeves and get stuck in with more educational drives and better structured mentorship programmes.

“We desperately need to fill this skills vacuum,” says Gould. “My view is that so much emphasis has been placed on technological developments that skills development and training has been ignored. Granted, technology changes a lot of things, but it does not change how you perform your job or go about it safely.”

Because the IRSE realises it has a long road ahead, it is working towards getting all rail stakeholders involved in their upskilling programme. One of the ways it is doing this is by reaching out to the entire industry and asking everyone what exactly they need.

“We are doing this because, although we have our views, we don’t want to make any assumptions. By getting feedback from all players we can start working out the gaps and developing an effective strategy,” explains Xaba-Nkuna. “At some point the entire rail industry is going to have to move as one if we are to fix the situation. When I started out practising in the Railway Signalling discipline, a sense of pride was instilled in the manner that I did my job. I have since carried this throughout my career and would like to see this being reinstalled in all other Railway Professionals, especially the younger generation.”



### The Institution Of Railway Signal Engineers

The IRSE is a non-profit professional institution for employees engaged in or associated with railway signalling and telecommunications, train control, traffic management and allied professions. The Institution was formed in 1912, and has its headquarters in London. Members are active in 50 countries worldwide, with 50% of its membership residing outside the UK. The Southern African Section was formed in 1981.

The aim of the Institution is to advance the science and practice of train control and communications engineering within the industry, as well as to maintain high standards of knowledge and competence within the profession. Its overriding purpose in doing this is for the public benefit, by helping to ensure the safe and efficient movement of people and freight by rail.

The IRSE encourages ongoing professional development by providing members with the following: Regular technical meetings and technical visits; publishing educational materials; offering an annual examination that is recognised by various countries throughout the world; and a mentorship programme that officially documents all progress made, thereby contributing to their members getting the professional respect they deserve.

# Improving **Level Crossing Safety** In South Africa

Transnet Freight Rail (TFR) is, and has always been, passionate about the safety of its employees, the general public and communities in which it operates. TFR operates across the length and breadth of the entire country. As a result, it constantly crosses paths with these communities, vehicle drivers and pedestrians. It therefore remains important for TFR to continuously educate the general public regarding railway safety.

Every year, TFR embarks on a number of Level Crossing Awareness campaigns, with special focus on both peak times and “hotspot” areas. Peak time periods include Back-to-school, Easter and December. These

periods always experience heightened traffic volumes, not only on our national roads, but also around all the country’s rail networks. As you would expect, this means both drivers and pedestrians make extensive use of level crossings and bridges during these peak periods, too – making these times of year ideal for awareness campaigns.

That said, during the December 2017 period, 70 hotspots were identified across the country – and at all of these, level crossing safety campaigns were conducted.

Their main focus was to highlight the dangers of trains, explain how best to cross railway lines on foot safely and why it is

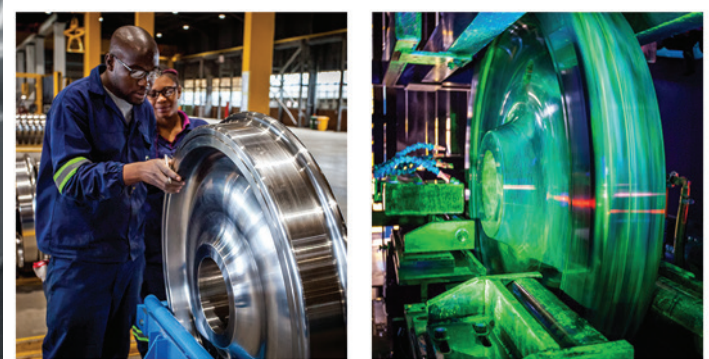
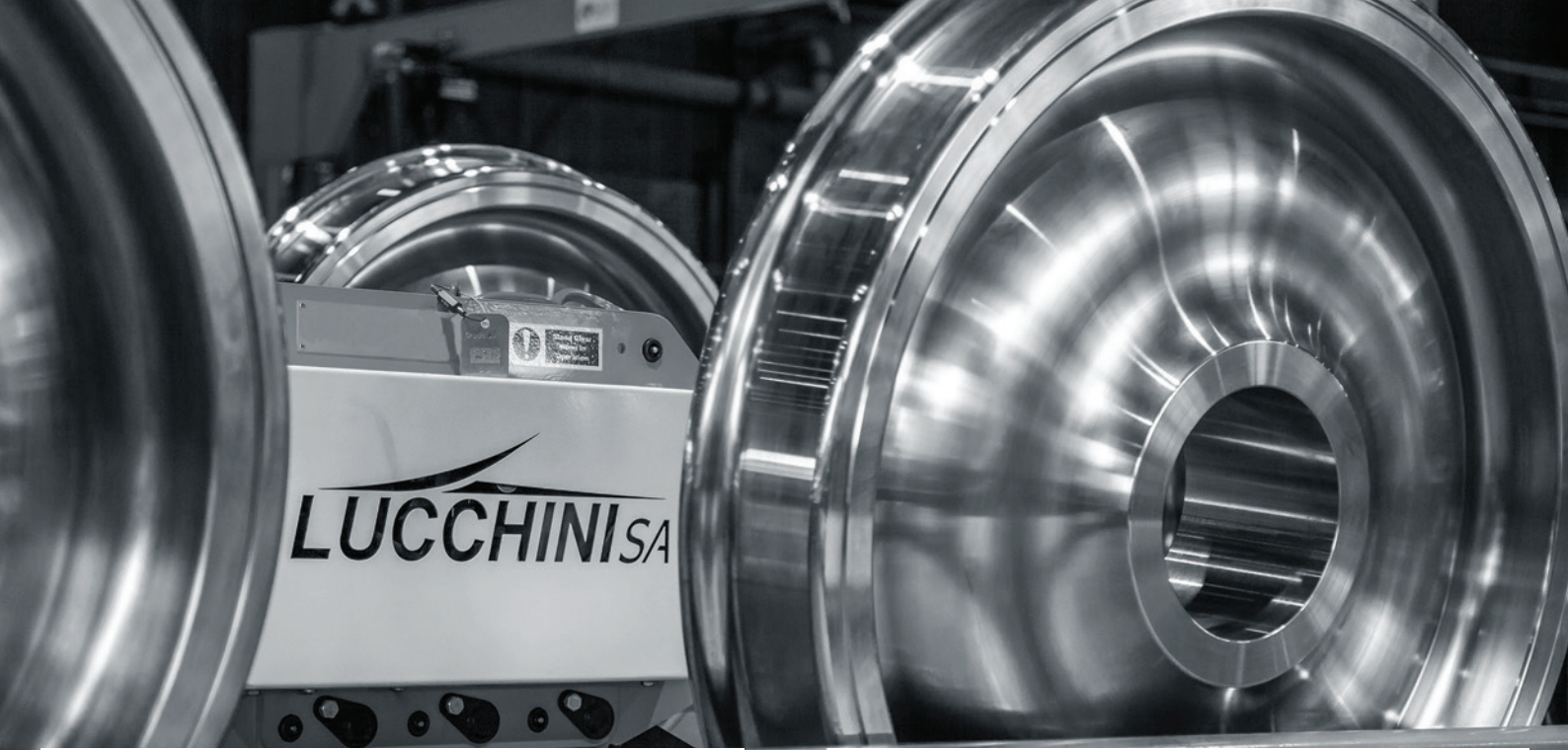
so important to adhere to level crossing signs. These campaigns were aimed at reducing and eradicating injuries and deaths arising out of train incidents, by focussing on changing the behaviours and attitudes of the public. However, this is not done in isolation. The TFR holds strong partnerships and relationships with the Railway Safety Regulator (RSR), PRASA, South African Police Services, the Department of Transport and various Community police forums.

The most important fact those using level crossings need to note is that trains do not operate like cars, in that they are not able to stop immediately when the driver slams on the brakes. In fact, a train takes, on

average, at least 1km to come to a complete halt due to the traction and the load it carries. Trains are also not able to swerve out of the way like cars do.

Current preventative measures at level crossings include automated booms, warning and educational signage, as well as patrol officers where possible. One of the biggest challenges faced by Transnet is the serious issue of vandalism and theft. Cable theft, and the theft of level crossing infrastructure, creates unsafe conditions for everyone using the railway network – whether they are a passenger on a train, or crossing the tracks at a level crossing.



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LOOK BEYOND



## UNTU's Steve Harris Spells Out The Reality Rail Workers Face In SA

**For These Dedicated Workers, It's A War Zone Out There**

*United National Transport Union General Secretary, Steve Harris, describes the often violent, sometimes fatal, situations rail staff face on a daily basis while trying to earn a living. He also discusses the Transnet/PRASA conundrum, and spells out the operational procedures for manual authorisations – which goes long way to explain why South African commuters experience so many frustrating delays, and then take their anger out on the trains.*

The sad reality is that the rot set into South African rail a long time ago, and now commuters, operators and all their staff are paying the price. In many ways, you could say that ancient Chinese curse, “may you live in interesting times”, applies to the situation the rail sector finds itself in today.

Blame can be squarely placed on the day the railways decided to disinvest from rail in 1988. Whatever the reason was at the time, the bottom line is that, because of this decision, most of the rolling stock available today is either worthless or in a terrible state.

South Africa's democratic government is doing its damndest to reverse this legacy, and has spent billions to secure new rolling stock. However, the reality is, until these modern trains (kitted-out with all the latest safety technology) become available, we are stuck with what we have. This means that every train set currently taken out of circulation – either due to accidents or vandalism – cannot be replaced. The end result: Fewer trains for commuters to use and even longer delays.

### How Crime Is Crippling SA Rail

According to United National Transport Union General Secretary, Steve Harris, the South African rail environment has a much bigger problem than the age of its rolling stock. And that would be crime.

To make his point, Harris describes a recent fact-finding visit to Bonteheuvel Station, located on Cape Town's notorious Central Line. He was joined by the city's MEC for Transport, the SAPS, rail stakeholders including PRASA and Metro Rail, two other labour unions and the media. The reason for the tour was to highlight how critical the crime situation had become, and how it was crippling the operators' ability to deliver a reliable, safe service.

“Once we arrived at the station by train we were escorted by police and PRASA security officers. The sub-station was completely ransacked, there was nothing left. Everything that could bring in a rand or two was taken,” he recounts. “You could see where they had dug under the security wall and got the cable out. This was obviously a gang.”

He also noted the informal communities located on either side of the sub-station, leading him to conclude that someone knew who was responsible. In fact, in one instance he even overheard locals mentioning that police had been tipped off, but did nothing. However, while pointing out that combatting crime is the responsibility of the SAPS, he has huge sympathy for law enforcement on the ground. “You must understand, you can't send someone in with a batten,” he explains. “These guys have automatic weapons. You need bullet-proof vehicles for situations like these.”

Fortunately, technology-based solutions are being developed to help put an end to this scourge, but for understandable reasons Harris is reluctant to discuss them. “We don't want to tip off the criminals,” he elaborates. But he was prepared to say that the procurement process is underway to ensure PRASA obtains the services of highly-skilled counter law enforcement services with the most modern technology to provide the service and help bring stability back to the Central Line – the section that currently faces the most problems in the country.

### The Impact Violent Crime Has On Rail Workers

In another example of how rail services are negatively impacted, Harris paints a disturbing picture which combines two of SA rail's biggest problems into one: antiquated rolling stock and criminality.

“Another big issue we sit with is the unreliability of our trains due to their age. Because of this, if one breaks down in a dangerous area we are putting the train driver, Metro guard and countless other lives at risk,” he says. “The trains get attacked and robbed as they are easy targets. Whatever they are carrying the criminals just take.”

And, as if that was not bad enough, train staff have to deal with the added trauma of being threatened, assaulted, or even killed by irate passengers who are fed up with delays or overcrowding – two elements that are completely outside the train driver's control. At this point Harris plays a cellphone recording for me that was absolutely harrowing to listen to. In it, you could clearly hear the terrified driver begging, no pleading, with control to give him permission to move on to the next signal. In the background, you could hear the angry cacophony of voices baying for his blood.

As a result, this driver is now severely traumatised, like many of his colleagues who have experienced situations like this before him. This kind of ongoing occupational stress, maintains Harris, goes a long way to explain why some rail incidents cite “human error” as the cause.

“I don't know exactly what happened in Durban,” says Harris, referring to the two train highjackings that occurred recently. “But what commuters need to understand is that these two train sets have now been removed from service and there are no replacements. This means the operator can no longer accommodate the amount of commuters who need to get to work. Effectively, what they have accomplished is to make the situation even worse for themselves.”

Many social commentators just assume that once the new trains become available, all the country's rail problems will be solved, but

Harris disagrees. His view is that, unless the rampant crime situation is brought properly under control by government, the bright future envisaged for SA rail is doomed before it starts.

### The PRASA/Transnet Conundrum

Once, when passenger and freight rail fell under one governmental umbrella, everything not only worked, but was a lot more cost effective. Now that the two roles fall under different authorities – PRASA for urban commuters, and Transnet for freight and long-distance passenger travel – working conditions for UNTU members have taken a dive for the worse. Harris goes on to point out that it has also created many inefficiencies on the ground, and strongly maintains that things could be done a lot better.

“One big reason behind the many issues South African rail currently faces is that, when the split occurred in the early 2000’s, Transnet made sure it retained all its expertise,” says Harris. “The split has proven to be huge mistake and we are paying dearly for it today.”

According to him, if all rail operations had been kept under one agency, we would have completely avoided the Afro 4000 debacle – were PRASA spent billions on new locomotives that were too tall for the nation’s rail network.

He also raises the fact that there is very little cohesion between the two authorities, which has huge implications for rail’s financial bottom line. “We find ourselves in a situation where mainline passengers are having to pay Transnet to use their lines,” elaborates Harris. “When meeting Transnet’s CEO in July last year, he indicated to us that PRASA owed them R1 billion and insisted they pay up.”

Harris adds that UNTU is perfectly aware that the operator is not receiving enough of a subsidy from government to keep up. Added to this, because of the current dangerous rail environment they have lost a lot of customers – which means they are bringing in less revenue. He considers this attitude insane. “Here you have two government departments, who

should be partnered together to deliver rail services to the country, with completely opposing agendas,” he laments.

Another downside of the split is how train staff are now deployed. “If they had just listened to us at the time, it would have saved lots of taxpayers money, not to mention helped with the delivery of train services,” says Harris.

He goes on to explain why: Under the old operational model, he says, all train crews managed both passenger and freight rail. However, nowadays each train crew only has one role – either passenger or freight.

“In the old days, a driver and his assistant would take a passenger train from Johannesburg to Kroonstad, for example, then bring a freight train back,” says Harris. “Now, after getting to Kroonstad, the driver and his assistant are driven back by road.” You can tell by the expression on his face that he cannot get his head around the blatantly-obvious operational inefficiencies currently built into the system.

Harris points out, however, that long-distance passenger rail finds itself in a completely different situation entirely. Here, train crews are being utilised maybe three times a week, but they are being paid for the entire month. Added to this, they are expected to work shifts in excess of 12 hours each – an incredibly unsafe practice, as it allows for human error to creep into the equation.

And, to make matters worse, he says, when drivers ask for counselling, they invariably receive unsympathetic responses like: “You’re weak, what’s your problem?”

### Why Manual Authorisations Cause Such Long Delays

Nothing makes rail commuters more irate than trains running late. Because of this, Harris firmly believes that the public (businesses and commuters alike) needs to fully understand how manual authorisations – required when infrastructure theft has compromised the safety of a line – are managed.

Whenever a signal is out, the driver first has to phone the train control office to check in. The office then authorises him or her to “move from Signal 1 to Signal 2”. Here’s the thing though: Just this paperwork alone can take up to 15 minutes to complete. And drivers are never allowed to move from station to station – only from signal to signal.

“Say you are travelling from Johannesburg Station to Ellis Park on your way to work, and maybe three signals are out because of cable theft,” says Harris. “Because up to three trains can be running on the same line during peak periods, this causes a huge knock-on effect.”

Harris explains how the three train scenario works: If train A is in front of the queue (i.e. at Signal 2) it needs authorisation to move to Signal 3. Train B is then given permission to move from Signal 1 to Signal 2. And train C (which is still stuck in the station) is given permission to proceed to Signal 1. As you can imagine, it is a tedious, bureaucratic process that – depending on the compromised section of line – can cause delays of up to three hours each time.

The only solution Harris sees for managing crippling delays like these, and preventing rolling stock from being destroyed by angry passengers desperate to get to work, is to get businesses involved. He feels strongly that employers need to understand the plight their workers are facing and be more tolerant when they run late, often due to circumstances completely outside of their control.

“At UNTU, we have a huge amount of sympathy for commuters, but we just cannot accept the current levels of criminality taking place,” says Harris. “In 2015 Deputy President Cyril Ramaphosa promised our federation that he would set up a think-tank involving all industry players specifically to deal with this issue, but to date nothing has happened. The quicker we can get this done, the quicker we can come up with solutions to ensure the poorest of the poor not only have safe, reliable rail services, but that our economy can grow.”

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## CIVIL ENGINEERING WORKS

### Concrete Structures:

Refurbishment or construction of bridges, culverts, inspection pits, track slabs, crane beams, paving slabs, floors and foundations. Resealing of tunnels and concrete drains.

### Steel Structures:

Refurbishment or construction of bridges, sheds, warehouses and microwave masts.

### Services:

Refurbishment or construction of storm water reticulation, sewer reticulation, fire hydrant installations, pipe and chamber systems and sub-surface drainage.

### Buildings:

Refurbishment or construction of offices, residential houses, relay rooms, sub-stations, mess and ablution facilities.

### Earthworks:

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### Construction And Upgrading Of Overhead Traction Equipment (OHTE) And Related Electrical Infrastructure:

25KV AC electrification system, 3KV DC electrification system, 50KV AC electrification system, extension of loops, installation of Motor Operated Switches, 11KV AC transmission.

### Refurbishment and Maintenance Of:

OHTE Wiring, OHTE Protection systems, Neutral Sections, Track Switches, H-Frames, Earthing and Bonding, etc.

### Emergencies:

Replacement of overhead cables, repairs of damaged cables, major breakdowns (hook-ups and derailments).

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## TRACK ENGINEERING WORKS

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- Re-railing (36m – 240m lengths) and destressing
- Re-sleepering
- Screening and profiling of ballast
- Major emergency repairs (wash-aways / derailments)
- Track welding:
  - Exothermic welding
  - Removal of wheel spin burns (skid-marks)
  - Repairing of crossings (preventative grinding)
  - Removal of ultrasonic detected defects
  - Cropping and creeping of rails
- Loading, off-loading of bulk material, rails, sleepers and ballast including classifying and sorting of second hand track material.

## FLEET

RME manages a fleet of some 642 vehicles across the country ranging from standard cars and bakkies to specialised heavy commercial vehicles such as dual purpose welding trucks and troop carriers that have been custom designed and built to ensure that we have fit for purpose vehicles.

## SIGNALLING ENGINEERING WORKS

### Installation Of New Systems:

Fail Safe Data Transfer (FSDT) control over fibre optic cable, radio controlled crossing places, protected level crossings, anti-vandal equipment, new CS90 remote control and CTC centres, cable replacement programs, new signals and points and electrical interlocking units.

### Workshop Wiring and Assembly:

Pre-assembly and wiring of equipment. Clean and refurbish existing interlocking units, site workshops when required.

### Debugging, Pre-Testing:

Testing and commissioning of signalling works. All signalling works installed are pre-tested, debugged and commissioned by a registered Signalling Test Engineer. Pre-wire and assembly of various signalling equipment can be wired and tested in workshop conditions.

### Construction Works For Asset Rationalisation:

Re-positioning of points and signals, rationalisation of station layouts by removal of equipment from layout and interlocking, interlocking clean-up to incorporate alterations, installation of temporary interlocking crossover facilities to enable formation rehabilitation of track structure.

### Rehabilitation and Re-instatement Of:

Existing signalling structure, train detection equipment, axle counters, points machines, existing interlocking and remote control.

# RME

# A Bad Start To 2018 For South African Rail

## Two Serious Train Accidents in Just Five Days Raise Safety Concerns

*The Rail Safety Regulator has released its Preliminary Investigation Report into the Geneva Station level crossing collision between a Shosholoza train and articulated truck, which occurred early in the new year. It also pronounced an immediate halt to manual authorisations, after two commuter trains were involved in a rear-end collision just a few days later.*

South Africa's Railway Safety Regulator (RSR) has had a rough start to 2018. The national rail watchdog's rude awakening to the new year began on 4 January, when a Shosholoza Meyl train collided with an articulated truck's trailer at a level crossing near Geneva Station in the Free State Province. After the train derailed, five coaches were engulfed in fire, causing 19 passenger fatalities, as well as 260 injuries to passengers, crew and staff. Then, on 9 January, two commuter trains were involved in a rear-end collision at Geldenhuys Station, Germiston – this time causing approximately 200 more injuries. Fortunately, this time there were no fatalities.

Think about it: That's 19 deaths and around 460 injuries over a period of just five days. If you were one of the country's two million plus daily rail commuters – largely the poorest of the poor, reliant on this affordable form of transport to earn a living – how safe would you feel when boarding a train with the current situation being what it is?

When RSR representatives, including their board chairperson, Dr Nomusa Qunta, presented their Preliminary Investigation Report on the Free State tragedy to the media on 10 January, their mood was sombre, and for good reason. Clearly, something had to be done to stop the carnage.

Dr Qunta started proceedings by making her views very clear, saying "We are disturbed by the two incidents that have taken place, one life lost is one too many." She also expressed the RSR board's concern regarding the general lack of rail safety in the country. Adding that rail, as a mode of transport, should be considered far safer than any other land-based commuting option available.

She then went on to pronounce that the Passenger Rail Agency of South Africa (PRASA) was banned from manually authorising trains with immediate effect. This was as

a result of the incident that took place in Germiston the day before, in which information received from RSR inspectors on the scene indicated human error as the cause.

"PRASA is, therefore, prohibited from manually authorising trains until such time that normal train service are restored, or until such a time when PRASA Rail can provide the RSR with a comprehensive and convincing action plan for all affected areas in all provinces where Metrorail trains operate," she stated.

### What We Know About The Germiston Accident

At approximately 08:20 on 9 January, a rear-end collision occurred between two Metrorail trains at Geldenhuys station. On this particular section, trains had to be manually authorised by train control officials, as the normal signalling system was not available due to "problems associated with signal cables". By now I think we all know what this euphemism probably means; cable theft.

Following standard procedure, Train 4317 was manually authorised to enter a platform at the station. However, immediately after entering the station, it broke down and first line responders had to be called to assist with the technical problems.

Then, while Train 4317 was still stationary at the platform, Train 0723 was authorised to enter the station. The end result: A rear-end collision that resulted in 226 passenger injuries – 159 of them minor and 67 considered moderate. The train crews of both trains also sustained minor injuries. Primary blame points directly to human error, as Train 0723 had been manually authorised to proceed on to the same platform as the first one.

"Obviously, one can see that there is human error involved. The second train should not have been authorised," Dr Qunta concluded.

### More About The Free State Level Crossing Collision

Like all level crossing accidents that, disturbingly, occur much too often throughout South Africa, this tragic incident was completely avoidable. Simply put, the driver of the articulated truck – who was unfamiliar with the area and transporting a load of soya beans – either didn't notice the train, or ignored safety warnings and simply misjudged his timing. Either way, the initial RSR accident investigation strongly indicates that the buck stops with him.

Here is what happened: It was a clear, sunny day when Shosholoza Meyl Train No. 37012 approached the level crossing in question at about 9:00 on 4 January. Hauling eighteen coaches, this long-distance passenger train was en-route from Port Elizabeth to Johannesburg.

At the time of the collision it was carrying 599 passengers, a train driver, train assistant, fourteen hospitality staff, one technical staff member and six South African Police Service (SAPS) members. The train was estimated to be travelling at a speed of 78km/h, well within the speed limit of 90km/h for that section of line.

The level crossing is located on a gravel road that is protected by advanced warning signs and a stop sign. The railway line is also equipped with whistle boards on either side of the level crossing. RSR investigators are, therefore, of the view that the level of protection is in-line with requirements.

That said, when the driver of the articulated truck hauling two trailers attempted to negotiate the level crossing, the train collided with its rear trailer. Apart from causing a massive derailment, the collision also dragged the trailer for about 140 metres along the railway line.

As a result, the railway infrastructure was seriously damaged, including the track and catenary wires. The

overhead power cable snapped and fell on top of the derailed coaches, causing five of them to catch fire and burn. This has been deduced by the noticeable arcing marks RSR investigators found on the roofs of some of the carriages.

The collision resulted in 19 fatalities to passengers, 260 injuries to passengers, crew and staff. Both the train assistant and the train driver sustained injuries. The injured were taken to various hospitals in the Free State. The truck driver was also injured and taken to hospital.

The most disturbing aspect to come out of the Preliminary Investigation Report is that almost all 19 fatalities were caused by the fire when the five coaches burst into flames, engulfing passengers while still trapped inside. Because of this, the RSR has established a Board of Enquiry to look into how tragic occurrences like this could be prevented in future.

“We have contacted the Minister of Transport and we are in agreement that a Board of Enquiry needs to be established to identify root causes, the source of the fire, as well as what needs to be done to prevent further occurrences,” said Dr Qunta.

#### Extracts From The Geneva Station Preliminary Investigation Report

Here are the main points of the Preliminary Investigation Report into the Shosholoza Meyl level crossing collision, which occurred near Geneva Station between Henneman and Kroonstad on 4 January:

#### Site Inspection

- An inspection of the site established that the crossing is on a gravel road and is protected by advanced warning signs and a stop sign. There are whistle boards on the railway line on both sides of the level crossing. RSR can therefore confirm that all the warning signs required for this level crossing are in place. The level of protection is considered by RSR to be in line with requirements
- The truck driver had been travelling from Senwes Grainlink located approximately 638 meters away from the Geneva

- level crossing after collecting soya beans from the silos to transport to Randfontein
- Employees at the silo confirmed that the truck driver arrived at the silos at around 17:00 on Wednesday, the 3<sup>rd</sup> of January 2017. He slept at the silos on Wednesday and departed on Thursday, the 4<sup>th</sup> of January 2017 when his truck ended up in a level crossing collision with the train at Geneva level crossing. It was the truck driver's first time to arrive at these silos
- The railway line in this section is a double electrified line with a section speed of 90km/h. The line is owned and maintained by Transnet Freight Rail (TFR) and PRASA is a train operator on the line
- Trains are controlled by means of a central traffic control (CTC) system in Kroonstad. As part of the data collection, it was confirmed that the Kroonstad CTC reported a power outage at the time of the level crossing collision. The substation supplying power to the railway line and the CTC were affected
- Upon collision, the last trailer of the truck was dragged along the railway line for about 140 metres. The truck was severely damaged resulting in the train derailling
- The railway infrastructure was also seriously damaged including the track and catenary wires. The overhead wire snapped and fell on top of the coaches after the occurrence
- Arcing marks were noticeable on the roofs of the burnt coaches
- Five of the derailed coaches caught fire and burnt. Arcing marks were noticeable on the roof of some of the carriages
- During the site inspection it was confirmed that the fuel tanks of the locomotive and the power van did not rupture. And no excessive diesel spillage was noticeable
- The motor transport carrier contained three vehicles of which one vehicle was utterly destroyed. This vehicle was lying opposite the railway line following its removal during the initial rescue operation. The remainder of the two vehicles

were still in the motor transport carrier and severely damaged

- Clearing-up operations commenced on 5<sup>th</sup> January at 14:00. During the clearing-up process the Police allegedly found the remains of four more bodies between wagon 21-102 (Car Transport Carrier) and wagon 20-503 (Power Van)

#### Summary Of Preliminary Findings

- The train struck the rear trailer of an articulated truck as it was clearing the level crossing
- The level crossing protection at the site is considered by RSR to be in line with the requirements
- At the time of the occurrence the train was travelling well below the section speed at 78km/h
- The driver of the truck tested negative for alcohol at the police station
- After the train derailed, five coaches caught fire and were severely burnt
- There was no noticeable signs of excessive diesel spillage
- Arcing marks were noticed on the roofs of the carriages

#### Issues To Be Further Pursued

- Appropriateness of the line of sight for both the truck driver and the train driver
- The train compilation and the correctness of the train consist as per the train journal and the appropriateness of the train load for the route in question
- The cause of fire to the five coaches and the appropriateness of fire mitigation measures on board the train and awareness thereof

#### Conclusions

The preliminary investigation was conducted by the RSR investigators who inspected the scene gathering information regarding the factors which could have contributed to the cause of the accident. An independent Board of Inquiry into the circumstances that led to this collision is being established in order to obtain detailed information.

To read the entire report, download it from the RSR website via this link: <https://rsr.org.za/Occurrence/PreliminaryReports>

*Note: The RSR lifted the Prohibition Directive on 12 January after meeting with PRASA. At the meeting, senior management submitted an action plan that details how PRASA intends to address issues pertaining to manual authorisations of trains during degraded train operations. After considering the corrective action plan, the RSR was satisfied that PRASA had adequately demonstrated its commitment to their raised safety concerns.*

# Uganda Highlights Progress Made On The Country's Rail Networks

The Government of Uganda continues to fast track the development of its Standard Gauge Railway (SGR) network, with a total of 1,724km to be developed in a phased manner. Additionally, the government is undertaking the development of the Greater Kampala Light Rail Transit (LRT) System, too.

The SGR network is being developed as a seamless regional railway network with Uganda's regional partners of Kenya, Rwanda and South Sudan. Eventually, the Project will stretch from Mombasa through Nairobi to Kampala, Kigali and Juba. Uganda's SGR on the western part of the country will also terminate at two borders with the Democratic Republic of Congo.

The SGR is designed to provide globally competitive transport services which will improve Uganda's business competitiveness. And the good news is implementation of the project is on track. Once completed, it will go a long way in unlocking the major growth constraints experienced in the country.

## Geographical Scope of the SGR Network

A total of 1,724km is planned to be developed in Uganda in a phased manner, starting with the Malaba-Kampala (Eastern Route) SGR section (273km) as shown in the table below:

ID: Route (Line)	Length	Remark
1: Kampala-Malaba	273km	Connects to Kenya (includes branch lines/sidings, from CHEC study)
2a: Tororo-Gulu-Nimule	465km	Connects to Northern Uganda & South Sudan (from CHEC study)
2b: Gulu-Pakwach	118km	Connects to West Nile (from CHEC study)
2c: Pakwach-Vurra	180km	Connects to DR Congo (from CHEC study)
3a: Kampala-Kasese	329km	Includes 11km Hima Branch (from Gauff study)
3b: Kasese-Mpondwe	53km	Connects to DR Congo (from Gauff study)
3c: Bihanga-Mirama Hills	174km	Connects to Rwanda (from Gauff study)
3d: Mirama Hills-Muko	120km	Connects to iron deposits (from Gauff study)

## Scope Of The Greater Kampala Metro LRT System

The total planned length for the Kampala Metropolitan LRT system is 240km, but the project is expected to be implemented in a phased manner, starting with the first 45km for Phase 1. That said, Phase 1 is expected to originate from Kampala Railway station, located in the city centre, to cover areas including Namanve, Kajjansi, Kyengera and Kawempe-Ttula as follows:

1. Kampala - Namanve via Nakawa, Kyambogo, Banda, Kireka and Bweyogerere: 12km.
2. Kampala - Kajjansi via Kibuye, Najjanankumbi, Zana, Lubowa, Seguku and Lweza: 12km.
3. Kampala-Kyengera via Katwe, Kibuye, Ndeeba, Nalukolongo and Natete: 7km.
4. Kampala-Kawempe via Nakivubo, Kisekka, Wandegeya, Mulago, Kubbiri and Kalerwe: 9km.

In addition to the above Phase 1 routes, the existing Kampala Railway station is expected to be remodelled into a multi-modal transport hub to enhance interconnectivity of different transport modes within the city.

## Progress Made To Date On the Western And Southern Routes

Preliminary Engineering Designs and the Environmental Impact Assessment, undertaken by German firm Gauff, has been completed.

The Bankable Feasibility Study, undertaken by a China Civil Engineering and Construction Company, has been completed on the Northern Route.

## More About The Greater Kampala Metropolitan Area Light Rail System (GKMA LRT)

In order to provide cheap, reliable, convenient, comfortable, safe public mass transport, as well as the need to attract development in the GKMA, Government has decided to develop the GKMA LRT system. The GKMA LRT will be a modern high capacity mass transit system which will serve Kampala and the surrounding areas. The LRT is proposed to move along the major transport corridors of the GKMA. The Preliminary GKMA LRT Bankable Feasibility Study has been completed, and scouting for partners to develop the LRT is ongoing.

## Progress Report Back Regarding The Implementation Of The SGR

The Ugandan Government has been implementing the SGR project for the last three years. Below are highlights of the key achievements made to date:

### 1. EPC/Turnkey Commercial Contract For The Eastern And Northern Routes

The development of the SGR in Uganda is to be undertaken in a phased manner. The Government of Uganda signed an EPC/Turnkey contract with M/s China Harbour Engineering Co. Ltd. (CHEC) for the development of the Eastern and Northern routes of the SGR (approx. 926km route length, 1,129km track length) in March 2015. An addendum to prioritise development of the eastern route (273km) was signed in September 2015.

### 2. Signing Of The Design Review And Supervision Contract

The Government signed a Design Review and Supervision Contract with Third Survey Design Institute (TSDI), in partnership with a local partner Prom Engineering, on 15<sup>th</sup> Dec, 2015 for the SGR Eastern route.

### 3. Preliminary Works

Preliminary works, including preparation of a Bankable Feasibility Studies, Environmental Impact Assessment and Preliminary Engineering, were completed in 2016.

### 4. Sourcing Of Financing For The SGR Eastern Route (273km)

A loan application was made to the EXIM bank of China and loan negotiations are at advanced stages. Project appraisal by the financier's consultant has also been undertaken.

### 5. Land Acquisition

Land acquisition is ongoing. A 60 metre-wide corridor is being acquired. To date, 82% of the assessment has been completed and 100km of Right of Way has been acquired.

### 6. Electricity Extension

Plans to extend electricity to the SGR traction substations are currently underway.

### 7. Harmonisation Between Uganda And Kenya

Plans to harmonise the SGR project between the Governments of Uganda and Kenya have been finalised. Plus bilateral agreements on operations, management and construction timelines have been signed.

### 8. Design Reconciliation

Design changes/reconciliation with other infrastructure projects, local government plans and relocation plans have been finalised. This has been done to ensure the smooth implementation of the project.

### 9. Local Content

Local content mainstreaming is a key component in the development of Uganda's SGR network. The Ministry has put in place plans to ensure that at least US\$700 million is spent locally during the construction of the Malaba-Kampala SGR. The Government is also working hand in hand with the local private sector to ensure that the local content target is achieved.

### 10. Quality Assurance

The development of Construction Quality Assurance strategies is currently underway. These strategies are meant to ensure that the SGR is delivered to the agreed upon China Class I standards.

### 11. Development Of Industrial Parks

In order to enhance the viability of the SGR project, plans are underway to develop Railway Industrial Parks, Inland Container Depots and Silos along the

Malaba - Kampala SGR sections in a phased manner. Three Railway Industrial Parks are being planned. Three ICDs and silos will be developed at three railway stations at Namanve, Jinja and Tororo stations. Plus a MoU has been sent to MoFPED for further management.

### 12. Social And Environmental Management

Social and Environmental Management Strategies have been prepared. Plans to relocate Utilities and other Infrastructure Projects are ongoing.

### 13. Post Construction Operation And Management

Post Construction Operation and Management plans have already been prepared. The Government has signed Bilateral Agreements with Kenya and a MoU with the contractor. As in Kenya, the contractor is expected to undertake operations for a short time until the country builds capacity in operations.

### 14. Human Resource Capacity Development

Plans to develop Human Resource capacity are currently underway. Different training packages, including railway-related degrees, job placements/ attachments and short-term courses will be undertaken.

### Progress Made To Date On The Northern Route

Preliminary Engineering Designs and the Environmental Impact Assessment, undertaken by a western consultant (CPCS from Canada), has been completed.

Plus the Bankable Feasibility Study, undertaken by a China Harbour Engineering Company, has been completed on the Northern Route.

## Mozambique's CFM Announces Its Main Rail-Port Projects For 2018

CFM, Mozambique's national Ports and Railway authority, has released the main infrastructure projects it will be tackling over the coming year. Projects include the expansion, rehabilitation and construction of ports (including rail), as well as the rehabilitation of various railway lines in the region.

That said, here is a breakdown of what to expect, including the projected timeframes for each:

### RAIL - PORT INFRASTRUCTURE

#### 1. Expansion of Beira Port Fuel Terminal (Quay): Feasibility Study and Engineering Project

**Objective:** Increase fuel handling to meet the demand.

At the moment, the terminal has the capacity of 3 million m<sup>3</sup>/year and is operating in the order of 75% of its maximum capacity at peak times – hence the need to increase capacity to double by building a new Terminal. The intention is to move from the current 3 million m<sup>3</sup>/year to 6 million m<sup>3</sup>/year.

**Term:** 2018-2021

#### 2. Expansion of Beira Port (Quay 11) - 20MTPA

**Objective:** Increase the handling capacity of containerised and general cargo from the current 13 million tonnes per year to 20 million tonnes per year.

**Stage 1:** Construction of the Quay.

**Stage 2:** Construction of (+150m, area of terminal).

**Stage 3:** Construction of (+300m, area of terminal).

**Term:** 2018-2021

#### 3. Construction of Moatize – Macuse Port and Railway Lines

**Objective:** Guarantee the export of up to 120MTPA of Moatize coal.

This project is being implemented by TML Mozambique and has already awarded the construction of the line to the Portuguese company, Mota Engil for the construction of the Port and Railroad at the cost of US\$2,300 million.

**Term:** 2016-2020

#### 4. Construction of the New Coal Terminal in Beira for a maximum capacity of 20MTPA

**Objective:** To increase the coal handling capacity in the Port of Beira, as currently the coal handling dock has the capacity of 6,5 million tonnes/year and the Sena railway line capacity raised to its capacity of 20 million tonnes/year. Because of this, there is a need to increase the cargo handling capacity from the current 6.5 million tonnes per year to 20 million tonnes per year at Quay 13.

**Stage 1:** Quay construction with a capacity of 10 million tonnes.

**Stage 2:** Expansion of capacity +10 million, to 20 million tonnes/year

**Term:** 2018-2021

#### 5. Rehabilitation and Expansion of Pemba Port

**Objective:** Provide a medium- to long-term solution for the Port of Pemba, taking into account the development prospects in the Provinces of Cabo Delgado and Niassa in the field of mining, agriculture and other potential industrial activities.

This port currently handles about 300 million metric tonnes, or 25% of its installed capacity due to the lack of container handling area and the state of conservation of the infrastructures presenting a high level of operational insecurity.

**Term:** 2019-2022

#### 6. Construction of the Port and Techobanine Railway Line: Construction of the Railway Line Techobanine - Morrurupule Selebipikwe (Botswana)

**Objective:** Construction of a deep water port; to transform the district of Matutuine into a centre of development contributing to the development of national and regional economy.

The Port should be able to handle 100 million tonnes of cargo a year, with coal being the anchor load. Initially, the railway line should have a transport capacity of 25 million tonnes per year, and should link Botswana with Mozambique through Zimbabwe.

**Term:** 2016-2020

#### 7. Construction of Angoche Port

**Objective:** Rehabilitation of the mooring structure and access bridge to allow the reopening of this port to meet the internal traffic in Coastal Shipping.

**Term:** 2018-2022



## RAILWAY LINES

### 1. Rehabilitation of Limpopo Line

**Objective:** Increase safety, capacity and mobility of rail traffic; Improve and increase the flow capacity of hydraulic passages; optimise and safeguard efficient and effective rail mobility.

The rehabilitation of the Line also includes the transverse drainage of the line along the Lower Limpopo zone.

**Term:** 2018-2021.

### 2. Sena Line

1. Rehabilitation of the crosswalk of the Dona Ana Bridge: An activity within the scope of social responsibility. Used for pedestrians crossing the two banks of the Zambezi River, it aims at ensuring pedestrian transit with safety, estimated at US\$5 million.
2. Transversal Line Drainage: With the objective of Improving and increasing the capacity of flow of the hydraulic passages.

**Term:** 2018-2019

### 3. Ressano Garcia Line:

**Objective:** Increase the capacity and mobility of freight and passengers to and from South Africa; Increase the capacity of support and improve the safety conditions of the bridges and the railway circulations.

#### i) Rehabilitation and Expansion of Line to 50MTPA

**Stage 1:** Rehabilitation of the Line will make it possible to increase the capacity of the current 13.9MTPA to 20 MTPA, estimated at US\$80 million.

**Stage 2:** Expansion of the Line through doubling and electrification of the line will allow it to move from 20MTPA to 50MTPA, estimated at US\$200 million per year.

#### ii) Moving Means

**Stage 1:** Purchase of 8 locomotives of line and 2 of manoeuvres, evaluated at US\$35 million a year. Purchase of 200 mineral wagons valued at US\$20 million.

**Stage 2:** Purchase of 20 line locomotives and 1,500 mineral wagons, valued at (70 + 150): US\$220 million.

#### Terms:

- Stage 1: 2018-2022
- Stage 2: 2024-2032

### 4. Goba Line

**Objective:** To increase the safety, capacity and mobility of rail traffic; In order to meet demand for cargo from Swaziland in the order of 6 million tonnes/year against the current 2,4 MTPA of line capacity.

This increase will allow some of the cargo that the Port of Maputo will require through the implementation of the Swazi Rail Link Project. In the branch of Salamanga, it is intended to increase the transport of limestone and clinker to the cement factories.

The work to be undertaken is as follows:

1. Comprehensive rehabilitation of the Goba Line, including interventions at the Beluluane and Munguene Bridges, with an estimated value of US\$50 million.
2. Drafting of a project to rehabilitate the work of art on the Tembe River at the Salamanga branch (Goba Line); Extension of the secondary lines in the Salamanga branch - Jabissa branch.
3. Construction of railway bypass in Mahelane Goba Line.

**Term:** 2018-2021

### 5. Rehabilitation of Machipanda Line

**Objective:** Complete rehabilitation of the railway line from Dondo Station to the Machipanda border, the construction of variants for reduction of tight curves and elevated trainees, plus the extension of crossing lines to increase capacity from the current 0.7MTPA to 3.0MTPA.

**Term:** 2018-2022

### 6. Lichinga - Pemba Railway line: railway construction; Construction of the Port to a capacity of 20MTPA

**Objective:** To boost coal flow from Maniamba coal and graphite, as well as miscellaneous cargo.

**Term:** 2019-2024



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# RSR Board Chairperson Dr Nomusa Zethu Qunta Talks Rail Safety



*Dr Nomusa Zethu Qunta, Chairperson of the Board, Railway Safety Regulator*

In an interview with Railways Africa, Railway Safety Regulator board chairperson, Dr Nomusa Zethu Qunta, discusses some of the issues that concern her when it comes to the lack of a rail safety culture in South Africa.

Read the preamble to the National Railway Safety Regulator Act, and you will quickly figure out that the Railway Safety Regulator's (RSR) mandate is pretty clear. In essence, it comes down to ensuring that both passengers and all operational staff are kept safe. It does this by promoting and encouraging the development of a culture of railway safety throughout the country and making sure that all rail operators adhere to and comply with all safety requirements.

However, the reality is that the RSR is a relatively small organisation, which is not only expected to be omnipresent, but also ensure that South Africa's entire rail network – comprising close to 22,000km of line and at least 9,767 authorised level crossings – satisfies all the fundamental requirements of safety. So it stands to reason that the only way it can be expected to accomplish its mandate is with the wholehearted cooperation of all organs of state.

According to RSR board chairperson, Dr Nomusa Zethu Qunta, cooperation from all organs of state is critical in ensuring safety and security in our railways.

## Making rail safe for everyone

When Railways Africa arrived at the RSR's Head Office in Centurion for the interview, Dr Qunta got straight down to business. She started by stressing how important it was for the rail sector to position itself as the preferred mode of transport.

"Other than our mandate to ensure passenger safety, one of our main objectives as regulator is to move commuters away from cars and buses to reduce the congestion on our road infrastructure," she explains. "However, if trains are perceived as, or, are really not safe, then this objective will not be attained."

Citing the United Kingdom as an example, Dr Qunta continues: "If you go to London, train commuters represent all segments of society, not just one particular class. The majority of people do not use their cars in London – and that's the kind of model we want to see here in South Africa."

The daily reality rail commuters' experience bares no resemblance to the Regulator's vision. In fact, the majority of those who use trains have no other options. This is a problem Dr Qunta is only too aware of. "Because of our current situation, trains are just not considered a middle class mode of transport," she concedes.

Nonetheless, she remains optimistic that the situation can be turned around. Especially when the various organs of state start pulling together and working towards improving rail safety as a common goal.



Dr Qunta elaborates: “Once safety is improved, there will be fewer occurrences – and as the quality of rolling stock improves, maintenance standards improve and all the infrastructure is finally in place, we can expect to attract a lot of people from road transport to rail.”

It is a balancing act; on one hand, the Regulator has to ensure that the various operators (each with their own challenges) uphold safety standards. On the other, the Regulator understands that it is part of the rail industry and creating an unnecessary animosity would be counterproductive. But at the same time, it is in everyone’s best interest to ensure that all operators comply with all their directives, no matter what. The Regulator’s balancing act revolves around one simple action: Constructive, ongoing dialogue with all the relevant industry players. “We have had many discussions of late to make sure everyone clearly understands what is expected of them,” she explains. “We need to work together.”

### Getting the priorities right

Dr Qunta then moved on to some of the deeper issues she considers key in transforming rail into the best land transport option in the country. Her first point can be summed up in one word: Priorities.

“Let’s take Operator X for example. Say they have five competing priorities cited for their financial year. Perhaps safety is point number four, but their budget runs out at number three. This means they have no money left for safety and nothing gets done. What is number one on the list of priorities for operators? Customer satisfaction? Service delivery? I’m not sure what occupy their minds the most. What I do know is that for the RSR, our highest priority is safety.”

Regardless of what daily challenges operators’ face – be it antiquated

rolling stock or infrastructure theft – Dr Qunta’s stance is emphatic: The buck starts and stops with them when it comes to ensuring passenger safety – the National Railway Safety Regulator Act spells it out very clearly. “Our government has a constitutional obligation towards the disadvantaged members of our society. They must be taken care of in terms of their safety.”

### Working Together

Another thing all rail stakeholders need to start doing, as far as Dr Qunta is concerned, is forge closer working relationships with each other so they can collaborate on common issues and goals more effectively.



Here she cites crime, specifically infrastructure theft, as a prime example: “Considering how rampant cable theft is, I firmly believe the operators can do better. The same goes for the police.” Her argument is that if these two parties started working more closely together, they would be able to come up with effective strategies that make serious inroads into this scourge – saving countless lives and a lot of taxpayers’ money in the process.

“How much must it cost to constantly replace infrastructure because of theft, or regularly having to repair lines and replace rolling stock because of accidents caused, primarily, by that theft?” She asks.

While not really knowing the answer, she strongly suspects that hiring proper 24 hour security, or deploying police to constantly guard vulnerable hotspots, would probably end up more cost effective in the long run.

### Taking safety seriously

Dr Qunta brings up South African Airways as an example for the rail industry to emulate because of the national carrier’s highly-entrenched safety standards, which feature so prominently throughout its entire operational chain – cutting the odds of human error from occurring right down to an absolute minimum.

“No matter where you look, whether it is the mechanics performing maintenance, flight attendants, or the guy refuelling the plane, the aviation industry takes safety extremely seriously. And, most importantly, airlines take it upon themselves to make sure it happens,” she explains. “We need to entrench this proactive attitude regarding safety when it comes to trains.”

### Enforcing the law

In light of the number of train accidents that have occurred since the start of the year, and the trouble currently being experienced on some of the Metro lines, questions have been asked whether the RSR is able to enforce its mandate. Dr Qunta is adamant that it does.



“We most certainly do,” she states. “The Act provides clear mechanisms for us to enforce our mandate. Maybe the right question to ask is to what extent have we exercised the authority that we have? Or, rather, can we really influence the operators to implement the required changes themselves? I believe we can.”

“For us,” she says, “the safety of rail commuters will always come first.”

“Other than our mandate to ensure passenger safety, one of our main objectives as regulator is to move commuters away from cars and buses to reduce the congestion on our road infrastructure,” she explains. “However, if trains are perceived as, or, are really not safe, then this objective will not be attained.”

## AFRICAN ECONOMIC OUTLOOK 2018 PRESENTED TO AU SUMMIT DELEGATES IN ADDIS ABABA

African economies have been resilient to negative shocks, but poor infrastructure is a serious impediment to inclusive growth, according to the 2018 edition of the African Economic Outlook (AEO) presented to delegates in Addis Ababa at the African Union Summit on 26 January.

The African Economic Outlook – the African Development Bank’s flagship analysis of the state of African economies – was presented to key stakeholders on the sidelines of the ongoing 30<sup>th</sup> Ordinary Session of the Assembly of the Heads of State and Government of the African Union in the Ethiopian capital.

As a leading African institution, the Bank is the first to provide headline numbers on Africa’s macroeconomic performance and outlook.

The Bank’s Chief Economist and Vice-President for Economic Governance and Knowledge Management, Célestin Monga, said the report was presented in January to give policy-makers enough time to reflect on the recommendations for economic planning and transformation.

The Bank is also translating the report into key African languages and engaging with policy-makers and civil society organisations to ensure its operationalisation, he said.

Beyond the observed increase in Gross Domestic Product (GDP), Monga called for structural change in Africa.

Amani Abou-Zeid, Commissioner for Infrastructure and Energy at the African Union Commission, described the report as highly relevant and useful for Governments and other stakeholders.

### Real GDP Growth Outlook For The Continent

The African Economic Outlook put average real GDP growth in Africa at 3.6% in 2017 – a good recovery from the 2.2% recorded in 2016. And, on a promising note, the 2017 figure is projected to grow by 4.1% a year in 2018 and 2019.

Growth was driven by improved global economic conditions,



(from left to right): Kouassi Rene N’Guettia, Director Economic Affairs, African Union Commission; Arkebe Oqubay, Minister and Special Advisor to the Prime Minister of Ethiopia; Victor Harison, Commissioner for Economic Affairs, African Union Commission; Amani Abou-Zeid, Commissioner for Infrastructure and Energy, African Union Commission; Célestin Monga, Vice-President and Chief Economist, Economic Governance and Knowledge Management, AfDB; Abebe Shimeles, Acting Director, Macroeconomic Policy, Forecasting and Research Department, AfDB.

better macroeconomic management, recovery in commodity prices (mainly oil and metals), sustained domestic demand (partly met by import substitution), and improvements in agricultural production.

However, Africa is still experiencing jobless growth, largely due to limited structural change. Consequently, sustained high growth has not had a substantial impact on job creation. Incidentally, about two thirds of countries in Africa have experienced growth acceleration.

“Basically, a growth acceleration period is one in which the average growth rate of GDP per capita over a period of eight years is at least 3.5% per annum,” the report notes.

The Commissioner for Economic Affairs at the African Union Commission, Victor Harison, endorsed the report, urging African countries to adopt its recommendations for inclusive growth.

“These studies present the behaviour of African economies in the face of difficult external conditions and announce the revival of growth with an estimated rate of 4.1% in 2018. We all know that growth is not yet inclusive in Africa, and unemployment affects more women and young people,” he told the audience.

Harison urged member states to improve the business climate and stimulate the private sector to participate in the development.

### Infrastructure And Investment Challenges

According to the Outlook’s findings, Africa’s infrastructure is still behind those of other regions in quantity, affordability and quality due to a lack of investment. Citing other regional economic blocks as examples, the report points out that at the same level of GDP per capita, South Asia, East Asia and Latin America have higher access to electricity and water than most African countries.

It observed that Africa needs higher growth and investment rates, but debt levels must be monitored closely. Public debt ratios are rated to be on the rise, stocked by appetite for infrastructure spending.

Details provided by the Outlook indicate that 40 countries in the region recorded increases in external debt from 2013-2016, while nine countries experienced a decline.

Though there are growing concerns about the debt levels in Africa, the report indicates that, if used productively, debt may be necessary to unlock long-term growth potential.

“Tackling poverty will need efforts to increase the employment elasticity of growth. The current employment elasticity of growth of 0.41% in Africa is below the desirable 0.7% for all developing countries. A pressing policy concern is therefore to ensure that growth is reflected in creation of high and quality jobs,” according to the Outlook.

The report notes that Africa could be the next investment frontier and recommends three options for the international financial community to resolve the savings glut:

- The adaptation of a policy of more negative real interest rates in high-income countries
- The use of excess savings to finance public investment in rich countries
- The facilitation of the flow of capital to developing countries

Estimates show that investment needs for infrastructure will be in the range of US\$130 -170 billion a year.

### Problems With The Infrastructure-Deficit Approach

The problem with the infrastructure-deficit approach is the underlying assumption that one day Africa and the world might be able to resolve it. Yet, throughout history, infrastructure deficit has been a perpetual policy problem and solving this remains a work-in-progress, said Abebe Shimeles, Acting Director for Macroeconomic Policy, Forecasting and Research Department at the African Development Bank.

The Bank proposed that many new financing mechanisms could be implemented in all African countries, taking into account the specific economic circumstances and the productive structures of national economies.

The report urged countries to better leverage public funds and infrastructure investments, while encouraging private-sector participation.

“But the different stages of development of African countries mean that the policy approaches need to be country specific. Universal access to high-quality infrastructure is likely to be a long-term goal,” Shimeles said.

### Strategic Targeting Seen As The Answer

That said, strategic targeting is considered to be essential. Trying to achieve development with limited resources has led governments to spend too much on too many projects with low economic returns and little impetus for industrial growth and employment creation. But African countries do not need to solve all their infrastructure

problems before they can achieve sustained and inclusive growth, the report said.

Instead, African countries should focus on how to best use scarce infrastructure budgets to achieve the highest economic and social returns. One pragmatic approach, the report notes, is the creation of industrial parks.

The AEO also called for infrastructure development in special economic zones and industrial parks, as well as the mobilisation of domestic resources through well-targeted subsidies and the rigorous collection of fees using technology.

It urges Africa to attract more private funding to infrastructure projects, focusing on risk mitigation; creating an infrastructure asset class to attract institutional investors; and choosing appropriate financing instruments to develop infrastructure.

Arkebe Oqubay, the Minister and Special Advisor to the Prime Minister of Ethiopia, congratulated the Bank for releasing the report in January, assuring that it would be useful for African leaders and for economic transformation. He appealed to African countries to drive high and sustained growth, which must be backed by structural changes, the domestic mobilisation of resources, and targeted and selective infrastructure.

“African countries should design policies to help them create jobs. We need to focus on more permanent jobs and increased skills. We need to focus on quantity and quality,” Oqubay said.

### About The Africa Economic Outlook Report

The African Economic Outlook bridges a critical knowledge gap on the diverse socio-economic realities of African economies through regular, rigorous and comparative analysis.

The African Economic Outlook is produced annually by the African Development Bank and provides short- to medium-term forecasts on the evolution of key macroeconomic indicators for all 54 regional member countries, as well as analysis on the state of socio-economic challenges and progress made in each country.

## BANKERS COBALT CORP. ACQUIRES SIX NEW INTERESTS IN COBALT AND COPPER CONCESSIONS IN THE DRC

Bankers Cobalt Corporation has just announced that it has entered into an agreement to earn up to a 70% stake in six additional concessions in the southern Democratic Republic of Congo (DRC) Copperbelt region. The company now has a total of 26 concessions with potential for cobalt and copper in the DRC covering a total area of more than 391km<sup>2</sup>. It also has one of the largest DRC cobalt and copper exploration land packages held by a junior mining company to date.

Five of the concessions are located north of Kambove and north east of the Tenke Fungurume operating copper and cobalt mine. And one of the concessions is west of Malambwe, in the general vicinity of Bankers Kankutu project. These six concessions contain 110 carrés, totalling 92,4km<sup>2</sup> in area, and were obtained from the same high-quality DRC partner as the six concessions announced in Bankers' previous news release dated January 4.

“Competition for quality concessions in the DRC Copperbelt is increasing. Companies appear to be coming to the realisation that if you want to be a contender in the global cobalt sector, your company must consider acquiring suitable projects in the southern DRC Copperbelt,” Kevin Torudag, the President of Bankers' DRC subsidiary stated. “We have a superior portfolio of concessions, and these concessions were acquired at a substantially lower cost than the price per concession new entrants in the DRC will be forced to pay, if they can find a quality project within the dwindling available concessions.”

“Bankers will continue to assess and acquire additional concessions on a very selective basis. We will also assess projects more advanced than our current portfolio and, in addition, continue our efforts on exploration and development of our 391km<sup>2</sup> land holdings,” he concluded.

## CAF TO SUPPLY 18 URBOS TRAMS FOR MAURITIUS METRO EXPRESS PROJECT

CAF has signed a contract exceeding €100 million for the supply of 18 Urbos Trams with Larsen & Toubro Limited, India which is executing a 26km Integrated Light Rail Transit System (circa €450m) in the Republic of Mauritius.

CAF's scope of supply includes 18 bi-directional 100% low-floor trams comprising seven modules each, signalling system, automatic vehicle location system (AVLS), transit signal priority system (TSPS), depot equipment and a driving simulator.

This is a turnkey project in the Republic of Mauritius, the south-west Indian Ocean island, which lies some 900km from Madagascar and approximately 3,800km away from the southern tip of India. This investment is the result of the country's ongoing development policies, aimed at boosting the modernisation of transport infrastructures and services.

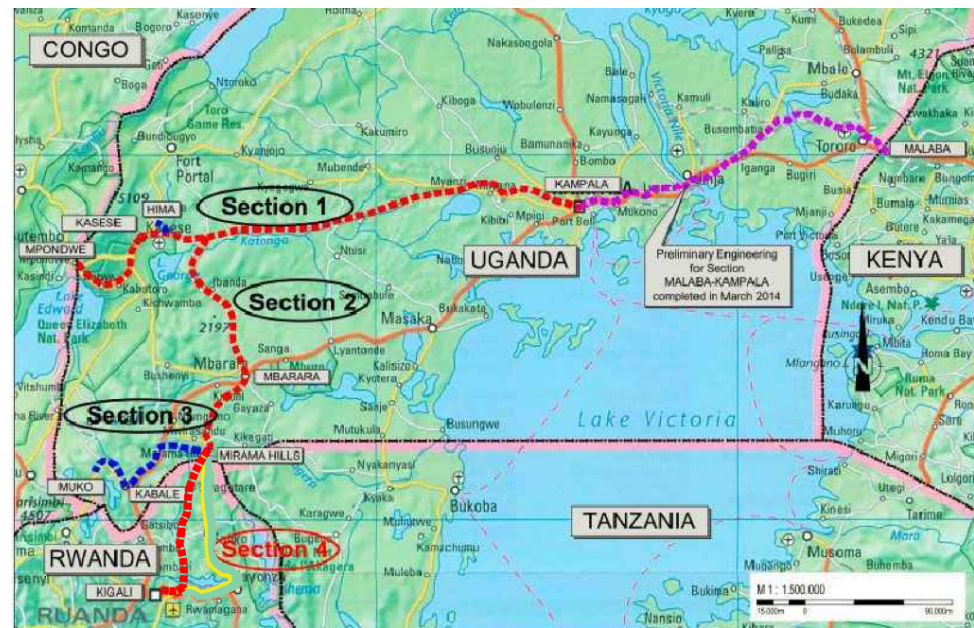
The 26km route connects five major cities in Mauritius (Curepipe, Vacoas, Rose Hill, Quatre Bornes and the capital Port Louis) covering an area inhabited by approximately 600,000 people, with 19 stations - two of which will be state-of-the-art elevated stations. The project is scheduled for completion within 48 months, with the first phase comprising 13km to be completed within 24 months.

This new contract endorses CAF's good year in terms of order intake, as it brings the volume of incoming orders in 2017 to around €1,500 million. Outstanding among these are orders abroad in countries such as Sweden, Belgium, Holland, Italy, United States, Philippines, United Kingdom and New Zealand.

## NEW RAILWAY CONNECTION IN EAST AFRICA

Africa's Northern Transport Corridor has received a major boost, thanks to the redesign of the rail network, totalling a distance of 1,080km. The line runs from the port of Mombasa, Kenya, to the eastern Congo and Rwanda.

In September 2012, German firm Gauff Ingenieure JBG received the contract to design the new standard gauge railway (SGR) line from the Kenyan-Ugandan border in Malaba to the Ugandan capital Kampala (250km). And in 2014, the planning contract was widened westwards from Kampala to the Congolese border near Mpondwe and to the south from Bihanga to the Rwandan capital Kigali.



The project was successfully completed in December 2017 by Gauff Ingenieure (JBG) Nairobi, Kenya in cooperation with ILF Consulting Engineers Innsbruck, Austria.

The scope of services provided included the following:

- Traffic and market study
- Corridor selection
- Geological and geotechnical investigations (including test drilling)
- Planning of alignment and superstructure (including signalling and telecommunications)
- Planning of engineering structures (tunnels, viaducts, bridges and drainage structures)
- Outline planning of passenger and freight stations
- Operational concept
- Financial feasibility study
- Investigation of financing options
- Investigation of legal, institutional and transnational cooperation for the operation of the railway.

Gauff Rail Engineering (GRE) and ETC Gauff Mobility Solutions contributed to the success of the project by providing planning work in the areas of superstructure, operational concept and financial feasibility studies.

## CONSTRUCTION OF RAILWAY LINE FROM MBEGANI TO CENTRAL RAILWAY LINE

Reli Assets Holding Company Limited (RAHCO) has initiated a tender relating to Consultancy Services for a Feasibility Study and Preliminary Design for the Construction of a railway line from Mbegani to the Central railway line.

This feasibility study and preliminary design for the construction of a railway line, is the extension from the Mbegani proposed Port to Ruvu/Kwala's new Standard Gauge marshalling yard on the Central Railway line. The railway link will have



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about 30km greenfield between the proposed Mbegani Port (Bagamoyo) on the Indian Ocean shore, East of Tanzania and Kidomole on the existing link line to the Tanga line.

Development of the railway link to the proposed Mbegani Port (Bagamoyo), with 120lb/yd track materials of Standard Gauge, will provide the following:

- Port/Rail interface
- Provision of easy accessibility to various social services to the community along the project area and decongest Port of Dar es Salaam
- Reduction in transportations costs and increase of its reliability will facilitate movement of agricultural products from production centres to internal and external markets and hence increase farm gate prices
- Facilitate movement of farm implements
- Promote small businesses along the project area and hence increase income to the community along the project area

The overall objective of this project is to promote sustainable mobility along the Central Corridor, through the construction of new link railway line extension from Mbegani to Link with the Central corridor at Kidomole Tanga Link line. Such upgrading and construction shall lead to unlocking the Bagamoyo Port and that External Processing Zones (EPZ), which are expected to be invested in Bagamoyo of Tanzania and Land locked Countries and mineral rich area to the export market gate, the port of Bagamoyo.

## DEDICATED ENFORCEMENT UNIT TO PROTECT METRORAIL COMMUTERS AND INFRASTRUCTURE

The City of Cape Town, the Passenger Rail Agency of South Africa (PRASA), and the Western Cape Government recently agreed to establish a dedicated enforcement unit to focus on the safety and security of Metrorail commuters and infrastructure.

An urgent rail summit was convened on 9 February and attended by the City's Transport and Urban Development Authority (TDA), the Western Cape Department of Transport and Public Works, PRASA, rail experts and business leaders in Woodstock.

"The City is ready and willing to contribute R16 million to get this plan off the ground. I have asked the TDA's acting commissioner to reprioritise projects and to find the money somewhere in our budget, and he did. I am grateful that we have agreed on a starting point to address the safety and security issues to stabilise the urban rail service in the short term," said the City's Mayoral Committee Member for Transport and Urban Development, Councillor Brett Herron. "A lot still needs to happen, but I think we have achieved our goal for the summit by agreeing on a plan of action that can be implemented as soon as possible."

Mr Mthuthuzeli Swartz, acting Chief Executive Officer of Rail at the Passenger Rail Agency of South Africa (PRASA), also committed to contribute R3 million per month to the City for managing and deploying Metrorail's security service personnel with immediate effect.

In addition, Metrorail in the Western Cape will be making use of the National Department of Environmental Affairs' new product for building a wall along the most critical sections of the Central line to secure the infrastructure that has been under constant attack over the past few months. This is a section approximately 15km in length, thus amounting to 30km of wall on both sides of the railway infrastructure. The construction cost will amount to about R45 million. The wall will be constructed with alien plant biomass and is fire-resistant, bulletproof, strong, quick to build, and cheaper than other options considered to date.

"Working together with all role-players is very important. This is why I attended this summit. There is no way that we cannot do what needs to be done. The City is better equipped to efficiently deploy the security personnel than we are at this stage. If we use the product from the National Department of Environmental Affairs we can save R20 million. This is money we can contribute to implement the pilot security plan to improve the safety of rail commuters and to protect our rail infrastructure and assets," said Swartz.





“All of our efforts are focused on reinstating the Central line service during the coming week. We will deploy drone technology within days which should assist in monitoring any criminal activity on the system,” he continued.

Metrorail Western Cape regional manager, Mr Richard Walker, expressed his appreciation to his principals, welcoming the landmark addition of surveillance technology to increase the rate of conviction in the Western Cape region.

“Now that criminals can be successfully caught and convicted, we call on communities to increase their reporting of criminal activity in and around railway precincts,” said Walker.

From a Western Cape Government point of view, the socio-economic and environmental benefit of a well-functioning rail service cannot be overstated, said Donald Grant, Western Cape Minister of Transport and Public Works.

“Rail has the potential to provide rapid access to social and economic opportunities for a broad cross-section of society, contributing to an efficient, competitive and inclusive city and helping to overcome some of the continuing spatial divides,” said Minister Grant. “Now is the time for inter-governmental cooperation, in the spirit of the Constitution, and for the private sector and all other stakeholders to work with government to improve the situation.”

“Rail, and its spill-over effects on traffic, is a major issue for many of our employees and has a social and economic impact on our business and our city. Today’s discussion was a real reminder of the power of government to solve important problems when the different spheres come together to focus on an issue. I hope that today will mark the next chapter in Cape Town’s integrated transport journey in which we must all play a part,” said Mr Jon Williams, Head of Cities and Urbanisation at PWC Africa.

Details about how the dedicated enforcement unit will be funded, established and managed will be addressed in a memorandum of agreement (MOA) between PRASA, the City of Cape Town and the Western Cape Department of Transport and Public Works. The cost to establish and operate the unit for a period of 12 months is estimated at R45 million.

It is foreseen that the MOA will be finalised and signed within the next few weeks.

## RAILWAY CONSTRUCTION AND MAINTENANCE COMPANY TO PAY R8M FOR COLLUSION

A company specialising in railway construction and maintenance has admitted to collusion and has agreed to pay a R8,4 million settlement penalty.

The Competition Commission reached the settlement agreement with Plasser South Africa (Pty) Ltd (Plasser). Plasser admitted to participating in collusion with Lennings DEC Rail Service (Pty) Ltd (Lennings), a division of Aveng (Africa) Ltd regarding tenders for railway construction and maintenance issued by Transnet (SOE) Limited between 1997 and 2013. Lennings and Plasser agreed to allocate railway construction and maintenance tenders among themselves.

As part of a settlement agreement, Plasser has agreed to admit liability and pay a penalty of R8,427,625.92.

On 1 February 2014, the Commissioner initiated a complaint against Plasser and Lennings. The investigation uncovered the following:

- Lennings agreed with Plasser to engage in tender allocation and cover price arrangements, in relation to tenders for railway construction and maintenance contracts issued by Transnet
- The last tender subjected to this arrangement was the Dynacat tender issued by Transnet in 2004 and concluded in 2013
- The agreement was that the first phase of the tender would be allocated to Plasser and the second phase would be allocated to Lennings

These arrangements are in contravention of section 4 (1) (b) (ii) and (iii) of the Competition Act. In addition to paying the administrative penalty, Plasser undertook to refrain from contravening the Competition Act in future. It also undertook to implement and monitor a competition law compliance programme.

Lennings was earlier granted leniency in line with the Commissions Corporate Leniency Policy. This settlement agreement, once confirmed by the Competition Tribunal, will conclude proceedings against the respondents in this matter.

## CONCERNS RAISED OVER ZAMBIA'S COMMITMENT TO MOVE MORE HEAVY CARGO BY RAIL

The Zambian Chamber of Mines has noted with concern the signing of a Statutory Instrument, cited as the Railways (Transportation of Heavy Goods) Regulations, 2018, to compel 30% of bulk and heavy cargo to be transported by rail.

The Chamber is currently evaluating the full impact of this new legislation on both the operations and cost structures of mining companies, as this sector is probably the largest to be affected.

Although they acknowledged that consultation with the mines by the Ministry of Transport and Communications did occur, as far as the Chamber is concerned, the mining industry's position has been ignored; a situation all members find "rather unsatisfactory".

Despite sector representation, their view is that the legislation has seemingly been forced through. According to them, the reality is the Copperbelt rail infrastructure currently in place is in a poor state of repair, lacks capacity, lacks adequate security provision, and certainly lacks resilience. Moreover, the fact that mines in the North Western Province have no access to a serviceable railhead closer than Chingola is not a minor detail to be ignored.

The mining industry views this SI as potentially retrogressive to commerce, trade and industry in Zambia. The Chamber pointed out that insufficient infrastructure exists to make this piece of legislation workable without imposing punitive costs onto Zambia's principal means of generating revenue. Their bottom line: The new legislation is both economically inappropriate and unworkable.

In order to maximise the value to a macro-economy, the Chamber proposes that the decision-making process for how freight goods are transported should be driven by the following parameters:

- **Economics:** Promoting the most cost-effective solution is important; especially when logistical costs are expensive (as is the case for Zambia, a large landlocked country) and where the margins of many businesses remain thin. Due to the large distances involved, the relative costs of logistics in the copper mining industry are significant.
- **Reliability:** The nature of the mining business (where the required capital cost investments are very high) is such that the reliability of logistics is essential. Mining and processing operations are dependent on the regular and reliable supply of inputs such as fuel, sulphur, coal, mill balls etc.; without which operations would cease.
- **Flexibility:** There are many variables in the mining industry. Customers are fickle; it may become necessary to ship from different ports at different times due to commercial or political reasons. Railways, in particular, are fixed and often a route

is dependent on a particular piece of infrastructure (such as a bridge) or border post, which becomes a critical point in the logistics chain. For example: in the event that a bridge is damaged or even destroyed, or a border post becomes inaccessible, then it is critical that an alternative route be found. Road trucks provide this kind of flexibility.

In the interest of a free-market, where competition is allowed to flourish and so promote efficiency, the Mining Industry feels that rail freight should compete on a level playing-field with road transport, without the unfair disadvantage of enforced quotas. To compensate for a lack of flexibility, rail transport must offer increased reliability and better economics than road.

Looking at the current operating environment in Zambia, the Chamber argues that there is no evidence that the economics of rail will be better than road. It also pointed out that sample rates had not been provided. In fact, from the mines' operational perspective, it seems most likely that rail freight will be the costlier option. Furthermore, it says, currently there is no evidence to suggest that rail reliability will be superior to that of road transport.

### Envisaged Impact Of Rail Quota In Areas Without Rail Infrastructure

The new legislation will result in copper having to be road hauled to the nearest siding where it is transferred to rail, which in turn will result in additional costs for the road haul; double handling of material; increased risks for theft of cargo; hence an impact on insurance premiums. The transit time for rail in Zambia is also very challenging.

The Mining Chamber's view is that this SI is punitive in nature and focused on imposing sanctions, including custodial sentencing on non-compliant companies – despite the concerns raised by stakeholders on the state of railway infrastructure in Zambia. Rather, it says, the SI should be business-friendly and provide incentives to encourage compliance and collaboration among stakeholders.

For this reason, the Chamber calls for a review of this SI and allow for more considered analysis of the effect on business and the national economy.

On a consolatory note, the Chamber said the mining sector would of course wholeheartedly support re-development of the Zambian railways by Government. But this SI contributes nothing to that development and is "decisively investment-negative".

The Zambian Chamber of Mines concluded its press statement by saying, "This SI is not symptomatic of a nation whose economic pillar is largely dependent on mining. It must be revoked or redrafted with substantial changes."

Editors Note: I personally think that this is good. Look what happened when South Africa had something similar.

### EAST AFRICA RAIL 2017 POST EVENT REPORT BACK

With over US\$100 billion being invested into rail throughout the region, it was high time that the East African rail community had its own opportunity to network with colleagues, explore all the latest rail technologies and seek out new business relationships and partnerships to invest in.

That said, the post event report on the inaugural East Africa Rail 2017 Conference - which took place in Nairobi, Kenya, last November - has been released and, by all accounts, it was an outright success.

The following East Africa countries were represented: Ethiopia, Uganda, Kenya, Tanzania, Zambia and Zimbabwe. And the large 377m<sup>2</sup> venue gave everyone present a good chance to mingle. Over 150 attendees took part, with many drawn from other African countries located outside the region, as well as by a significant number of big rail players from around the world.

With so many buyers present at the event, organisers put extra effort into making sure plenty of networking opportunities took place. In fact, they facilitated over 200 prearranged meetings during the two day conference in their dedicated networking lounge. Here, the networking app JUJAMA proved to be a huge help, as it allowed VIPs, delegates, sponsors and exhibitors to connect with each other before the event to setup meetings.

“There is a lot going on in the region about railways and there can never be a better forum for sharing experiences than this,” said Atanas K. Maina, Managing Director, Kenya Railways, after the event. “The inaugural EAR Conference is a game changer for East African states. Excellent organisation with incisive presentations and very informative sessions. I’m waiting for the next in earnest!”

The next conference, East Africa Rail 2018, will take place between 21 - 22 November in Nairobi, Kenya.



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## NEW ROUTES TO THE SINAI: FINAL BREAKTHROUGH IN GIGANTIC ROAD TUNNELS AT THE SUEZ CANAL

As last year came to a close, Egyptian President H.E. Abdel Fattah al-Sisi rang in a new era for the Sinai Peninsula: On Saturday, December 23, 2017, S-960 (Ø 13,020mm) – the third of four Herrenknecht Mixshields – completed tunnelling for the first of two new twin-tube road tunnels under the Suez Canal at Ismailia. The tunnels at Port Said and Ismailia, designed to link the Sinai Peninsula more closely to the Egyptian heartland in future, will open up new economic opportunities. So much so, that instead of spending up to 5 days in long car queues waiting for the ferry as one does now, crossing the Suez Canal via these efficient tunnels will only take 10 minutes in future.



During the 2017 Christmas weekend, the Egyptian President inaugurated significant development projects at the Suez Canal. These included two gigantic twin-tube road tunnels under

the international trading artery. A total of four tunnel tubes were driven in about 1.5 years for the new, efficient transport links under the artificial waterway. The shells are now almost completed: Two road tunnels were built north of Ismailia and run under the old and new Suez Canal. And two more cross beneath the canal south of Port Said.

With this key large-scale project, Egypt is expanding infrastructure that's immensely important for world trade. The efficient connection of the canal cities to the waterway's eastern shore will simplify trade activities, facilitate traffic and support economic development of the region.



For the new Suez crossings, H.E. President Abdel Fattah al-Sisi ordered a total of four identical state-of-the-art tunnel boring machines (TBMs, S-958 – S-961) from Herrenknecht. Under the direction of the construction companies Joint Venture Arab Contractors / Orascom and Joint Venture Petrojet / Concord / CMC, in the past 19 months these giant tunnelling machines safely produced the tunnels near the Egyptian cities of Ismailia and Port Said at depths of up to 60 metres and at a water pressure of up to 6 bar. All in all, the high-tech machines from Schwanau bored and built 15.3 kilometres of new tunnel during this time.

To allow for a smooth project progress during the very complex tunnel operations, Herrenknecht AG trained 40 Egyptian engineers in Schwanau and on the job sites. For optimal support of the tunnelling processes, Herrenknecht also provided the tunnelling teams with comprehensive services and supplied key peripheral equipment through the Herrenknecht subsidiaries VMT, MSD, Formwork, H+E and TMS.

Egypt's President H.E. Abdel Fattah al-Sisi and Dr.-Ing. E.h. Martin Herrenknecht, Chairman of the Board of Management of Herrenknecht AG, were personally present at the final TBM breakthrough of the Mixshield S-960 at Ismailia. H.E. President al-Sisi emphasised how crucial the project was to Egypt's future. According to him, now the previously neglected economy of Sinai Peninsula can grow as a result.

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## PROGRESS UPDATE ON THE AFRICAN INTEGRATED HIGH SPEED RAILWAY NETWORK

Given the pan-African nature of the continental high speed rail project, a key objective of the African Integrated High Speed Railway Network (AIHSRN) is connecting all Africa's capital cities and megacities, including (but not limited to) commercial hubs/economic zones and tourist destinations.

According to NEPAD, the viability and sustainability of the project will largely depend on the extent to which its development is linked to the planning, development and operation of existing and planned national and regional high speed railway networks, electrical power and ICT infrastructure facilities of the continent.

The existing conventional ('low speed') freight and passenger rail networks in Africa essentially form the backbone of the continent's railway

infrastructure assets. They contribute significantly to the development and operations of Africa's manufacturing, mining, and industrial outputs.

Aware of the magnitude of the investment required for the AIHSRN project to reach fruition, it has been decided that key selected routes and corridors will be piloted for replication, based on a proven business case.

Priority areas of the AIHSRN project, regarding national readiness for infrastructure connectivity, include the following: Technical studies for rehabilitating and/or constructing the 12,000km missing links; and at least 20% of the construction on the first pilot project, which needs to be completed by 2023.

The overall project comprises 4 longitudinal and 6 latitudinal



North-South and East-West continental railway networks respectively. It is to be implemented over three planned phases; short term (2015- 2025), medium term (2025-2045), and long term (2045-2065) development plans of 50 years.

After a thorough process held in accordance with African Union procurement standards, the evaluation team recommended eight consultancy firms to be shortlisted for the next stage of the procurement process, which will be the Request for Proposals. The firms will be invited to submit their technical and financial proposals to undertake the Detailed Scoping Study of the

Africa Integrated High Speed Railway Network and Master Plan.

Following the opening of the technical proposals on 12 January, a retreat was held from 12 - 16 February in Johannesburg, South Africa. The meeting was convened in order to undertake a detailed review of the technical and financial proposals received from the seven engineering consulting firms (out of the eight shortlisted), who responded to the request for proposals issued in December 2017 by the NEPAD Agency's Procurement Division.

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## TRANSNET DELIVERS ON ITS AFRICA STRATEGY

The Transnet SOC Ltd and Diaspora Infrastructure Development Group (DIDG) Consortium delivered rolling stock to the National Railways of Zimbabwe (NRZ) on 21 February in a bid to help strengthen regional integration, trade and the recapitalisation of the Zimbabwean railway programme.

intra-trade and efficient railway system, cementing Transnet's Africa strategy which will see railway, terminal and ports integration throughout the continent.

To address Zimbabwe's immediate railway capacity shortfalls, the consortium has entered into a six-month lease

Emmerson Mnangagwa, together with members of his Cabinet, witnessed the presence of Transnet's rolling stock, targeted for the interim solution that includes the following:

- 7 locomotives
- 151 wagons
- 5 passenger coaches
- 1 Kitchen car
- 1 power car

The intervention of the interim solution agreement will be followed by the main solution contract through the consortium in response to the bid submissions as follows:

- 24 new mainline locomotives
- 10 new locomotive shunters
- 13 NRZ shunters to be refurbished
- 200 general purpose wagons
- 768 NRZ wagons to be refurbished
- 162 new passenger coaches

Transnet's Group Chief Executive Siyabonga Gama said: "The nature of this contract and the relationship with neighbouring and continent-wide rail, ports, and pipeline logistics providers tells a story of

how Transnet strives to collaborate and grow its footprint on our African Continent, Middle East and South Asia. This is not only a historical event, but a key economic contribution to the milestones set out for Zimbabwe."

The delivery of the new and refurbished rolling stock will be finalised and announced in the near future as the Consortium and Zimbabwean Authorities conclude all the required governance processes and agreements.

The new railway equipment for the mainline solution will be manufactured in South Africa by Transnet through its advanced manufacturing arm. This accomplishment will also reinforce Transnet's transition from its current Market Demand Strategy to Transnet 4.0 strategy.

The main growth thrusts of Transnet 4.0 include the expansion of the company's manufacturing business, with leading technologies to enhance new and existing products and improve business processes.



This historical transaction between a South African-Zimbabwean consortium and the NRZ, is estimated at just over US\$400 million, and will contribute to the realisation of the north-south corridor programme in the SADC region.

The delivery will contribute to the region's plans to perform an uninterrupted

agreement for the rolling stock; the agreement is renewable on demand.

The delivery of the rolling stock also emphasises the Zimbabwean narrative that, "Zimbabwe is now open for business".

In a watershed moment, his Excellency, the President of the Republic of Zimbabwe, President

"The nature of this contract and the relationship with neighbouring and continent-wide rail, ports, and pipeline logistics providers tells a story of how Transnet strives to collaborate and grow its footprint on our African Continent, Middle East and South Asia. This is not only a historical event, but a key economic contribution to the milestones set out for Zimbabwe."

Siyabonga Gama, Group Chief Executive, Transnet



## HOW KENYA'S NEW STANDARD GAUGE RAILWAY (SGR) IS IMPACTING SAFARI TOURISM

USA - Your African Safari (YAS), a safari planning website, interviewed over 50 tour operators to learn more about the effects the new Standard Gauge Railway (SGR) has had on tourism to two of Kenya's key tourist destinations: Tsavo and Nairobi National Park.



The first phase connects Mombasa to Nairobi and is roughly 480km in length. Of that, about 140km run through Tsavo is one of Kenya's top safari destinations and also the country's largest park. A 2017 census showed that the elephant population has risen above 12,000 again, which is great news.

According to Kenya Railways, the railway has been designed for environmental compatibility, particularly within the National Parks where fencing will be provided, along with underpasses for wild animals to ensure minimal animal displacement. It further claims that the National Land Commission (NLC) and Kenya Wildlife Service (KWS) were consulted on Tsavo and Nairobi National Parks, and negotiations were made on how to ensure the railway wouldn't harm the animals. In some areas, the train will be elevated on pillars - sometimes as high as 40 metres - so that animals can pass freely below. In other instances, they have constructed underpasses to help ensure minimal animal displacement.

### Features Of Kenya's High-Capacity SGR

- The standard gauge line was selected so that Kenya can eventually, and seamlessly, connect to neighbouring railways in Uganda, Rwanda and, eventually, South Sudan.
- Each freight train will have a haulage capacity of 4,000 tonnes and a designed speed of 80km/h.
- Each passenger train will have a capacity of 960 passengers and a designed speed of 120km/h.
- The railway is being built by China Road and Bridge Corporation.

Construction of the railway began in 2014 with an investment of US\$3.8 billion, 90% of which is funded by China's Exim Bank.

### What Tour Operators Are Saying

YAS surveyed tour operators who offer tours to at least one of the two parks and asked if they would start to incorporate the new railway in their itineraries. The response was overwhelmingly in favour (75%) of including the new railway.

The survey then moved on to Nairobi National Park. Most of tour operators include Nairobi in 25-75% of their Kenya safari itineraries.

Lastly, YAS asked how they felt about the new railway and what they thought its impact will be on tourism and, more importantly, the well being of the wildlife. Most of tour operators felt that the new SGR will have a positive impact on safaris. However, many tour operators who wrote in their thoughts commented on the difficulty of pre-booking on the SGR.

Trankstrek Safaris Ltd said, "We would only use the SGR if it was specifically requested by a client, as we have tried it and found it to be quite difficult in regard to buying tickets. The boarding process is very long and can take several hours so, although it's a novelty, it isn't a quick or easy process to actually get onto the train!"

Brogibro Safaris also commented on the booking process, "We should be allowed to book the SGR online like other flight reservation, the present system of booking is not sufficient for tour operators. Booking in three days to travel is not acceptable, since some of our clients make reservations one year earlier or more."

Africa Last Minute added that "Until SGR goes online and payable via credit card, the railway will have little impact for wildlife safari itineraries. However, it has boosted beach hotel sales for locals."

YAS also received many comments that voiced concern about the wildlife and park size reduction.

Authentic East Africa Adventure said, "As much as the SGR is a welcome project that modernises travel and makes moving between the Kenyan coast and the rest of Kenya easier, its passing through Nairobi National Park will affect wildlife movement. It will also make a tour to Nairobi National Park less authentic. Having said that, the train tour will be more scenic with views of wildlife from aboard the train."

### Kenya's Safari Tourism And The SGR

According to the Director General of KWS, some elephants have been collared and are adapting positively to the new SGR. However, according to research done by Save the Elephants, who has been recording elephant movements since March 2016, eight elephants were killed because of the SGR embankment barriers in 2016. In recent years, the average annual kill from road carnage was two elephants. Unfortunately, there has been a significant increase in the roads and railways that cut through wildlife-rich areas.



## UPDATED KAMOA-KAKULA 2017 DEVELOPMENT PLAN RELEASED

On January 12 Ivanhoe Mines announced the company had filed an updated National Instrument 43-101 (NI 43-101) technical report on the Preliminary Economic Assessment (PEA) for the Kakula Deposit, as well as the updated Preliminary Feasibility Study (PFS) for the Kamoa Deposit at the Kamoa-Kakula Copper Project in the Democratic Republic of Congo. The independently compiled report is titled "Kamoa-Kakula 2017 Development Plan". And the good news is that rail features prominently in all of Ivanhoe's future plans.

For those unfamiliar with the Kamoa-Kakula Copper Project, it is situated in the Laulaba Province, DRC and located approximately 25km from the provincial capital of Kolwezi. Ivanhoe Mines discovered the Kamoa copper deposit back in 2008, and the high-grade Kakula deposit (located 11km away from Kamoa) more recently in 2015.

Presently, access to the project area from Kolwezi is via unsealed roads to the villages of Kasekelesa and Musokantanda. However, the road network throughout the project area has already been upgraded by Ivanhoe to provide

reliable drill and logistical access. Ivanhoe has also completed the development of twin declines at the Kansoko Mine to provide access to the Kansoko areas of the Kamoa deposit, as well as a portion of the 1,500km-long railway and electric power line from Lubumbashi to the Angolan town of Lobito that passes approximately 10km to the north of the Project area.

At present, the Project is also isolated from any public infrastructure. Current on-site infrastructure is limited to only support exploration programmes, and the ongoing mine development activities in the Kamoa and Kakula deposit areas. As a result, the exploitation of the Kamoa and Kakula deposits will require the development of a number of greenfield projects with all the attendant infrastructure.

### What This Means For Rail

In its economic analysis, the Report assumes that rail will be available after two years, which will therefore significantly reduce concentrate transport costs (relative to the road transport assumption). This will also effectively provide the additional advantage of a buffer against a

reduction in Mineral Reserves, the writers point out.

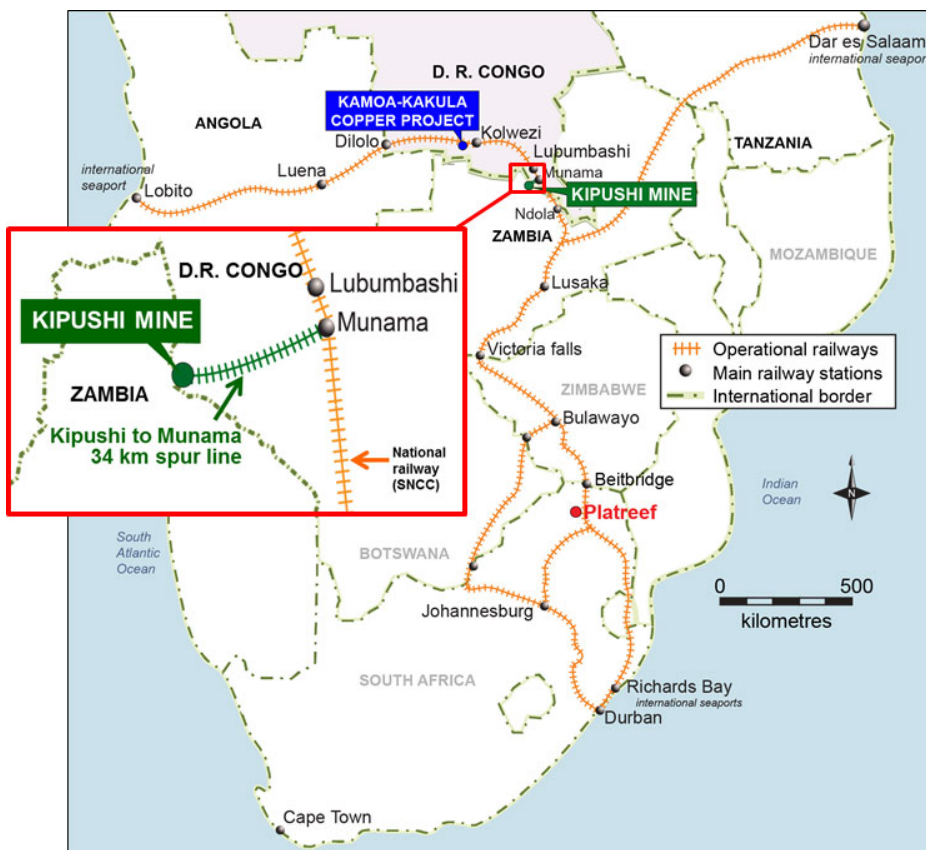
It is currently anticipated that in the first five years of production concentrate will be transported via road to Ndola in Zambia, and thereafter via rail to either Richards Bay or Durban harbour in South Africa. Then, after five years, it is assumed the Angolan rail line will be operational and a rail spur will be constructed to Kamoa for direct rail transport to the Angolan port of Lobito.

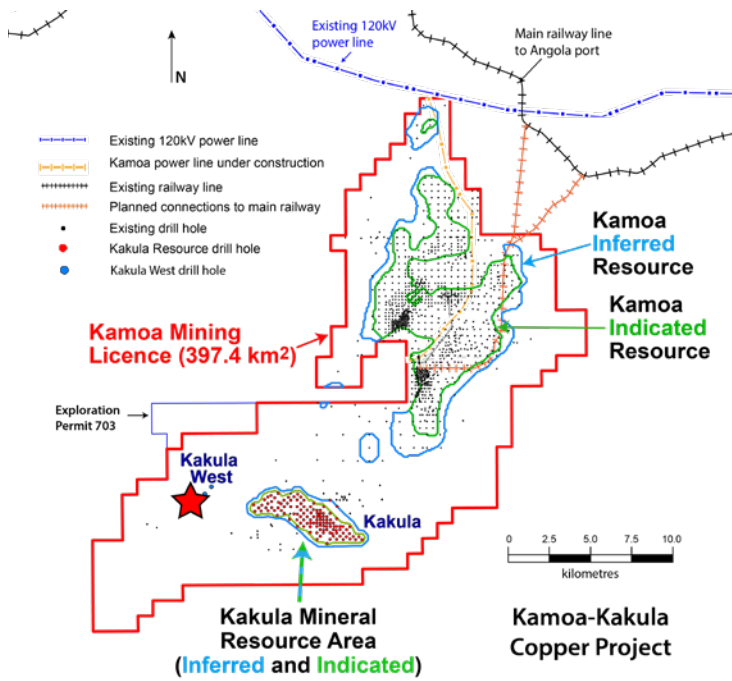
With this in mind, the Report has proposed a phased logistics solution. Currently, the North-South corridor between southern DRC and Durban or Richards Bay in South Africa is viewed as the most attractive and reliable export corridor. Product would be transported by truck to Ndola in Zambia, and then loaded on to trains for onward transport to the ports of Durban or Richards Bay in South Africa.

Later it is planned to use the existing 2,000km rail line between Kolwezi and the Angolan port of Lobito. This line has been re-built for 1,600km between Lobito and the Angolan-DRC border at the town of Dilolo, and can handle a capacity of 20 MTPA.

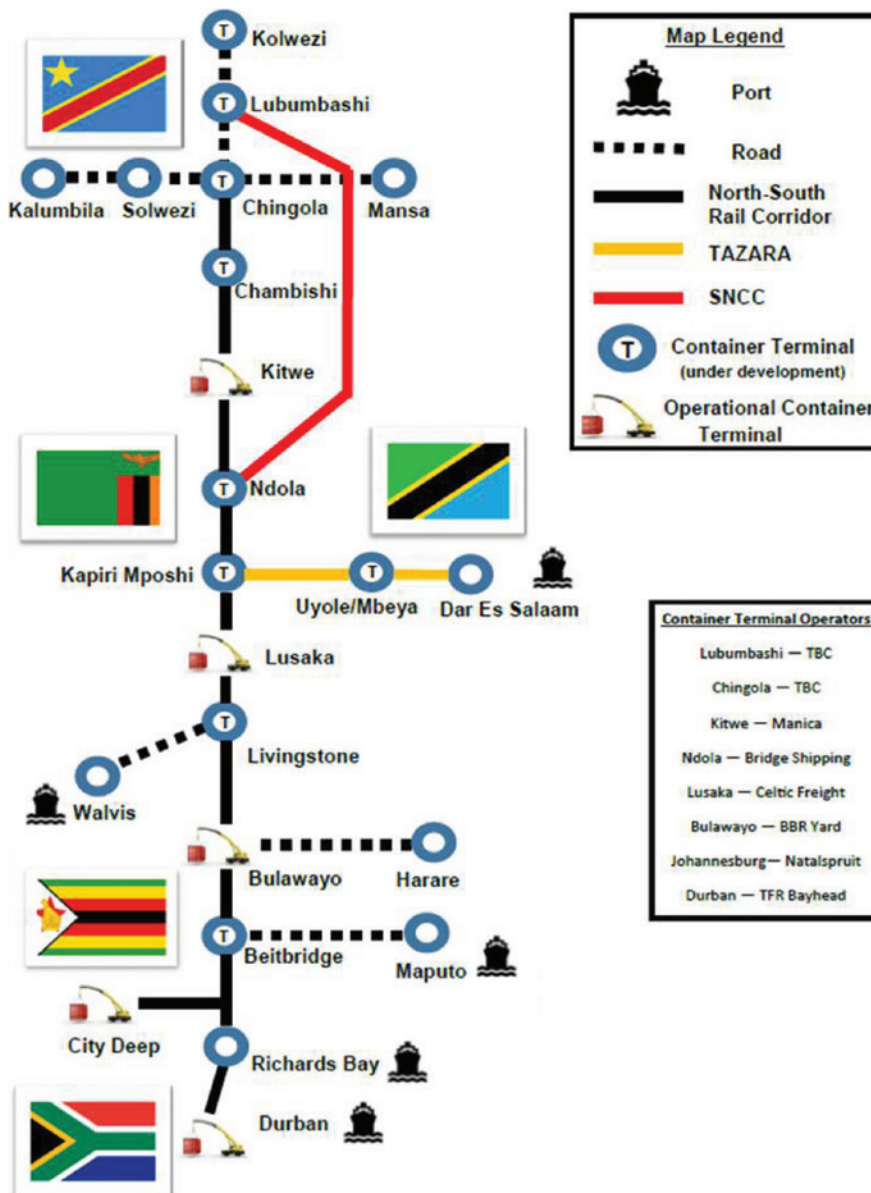
However, the reality is that the 400km stretch on the DRC side of the border, from Dilolo to Kolwezi, is in a poor condition and needs major repair and upgrades. As soon as this section has been sufficiently rehabilitated and put into operation, Kamoa will construct a private 20km rail spur linking the mine to the main line and product will be railed directly from the mine to Lobito for export. It has been assumed that this rail link will be available from year three, and reduced freight costs have been assumed from this time onward.

That said, a number of alternate export corridors will remain available to Kamoa, and could be used if necessary. Apart from the North-South corridor to Durban and the Lobito/Benguela corridor to the West, the Tazara corridor to Dar es Salaam in Tanzania and the option of exporting some volume through Walvis Bay in Namibia also exist.





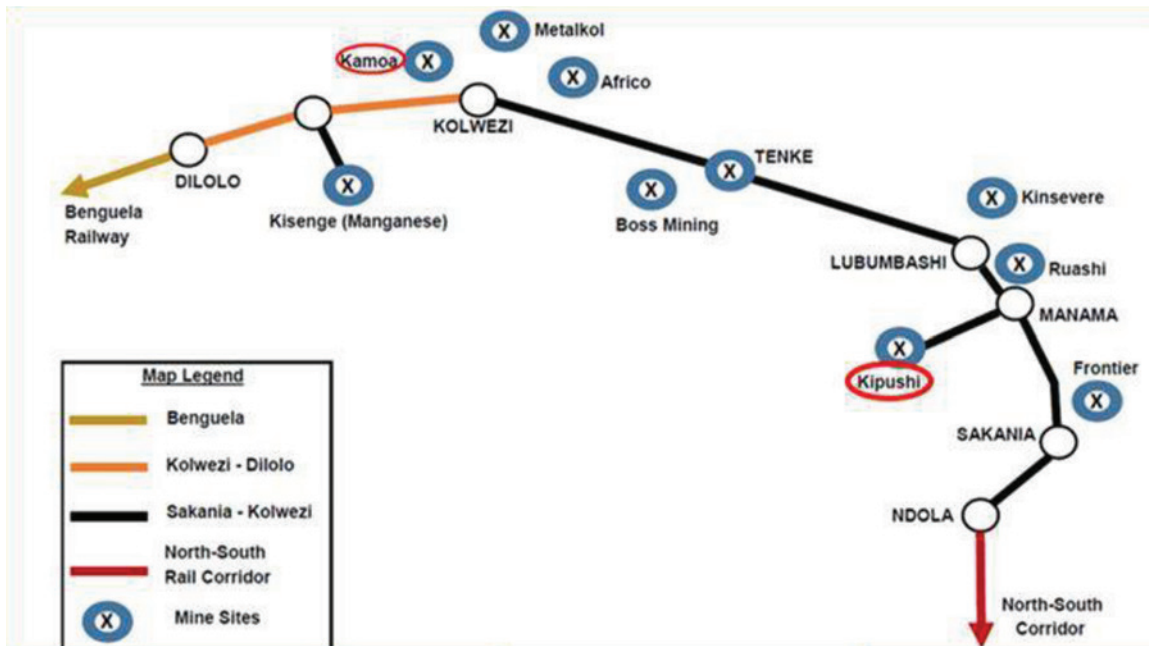
Concentrate will be bagged at the mine and road hauled to the closest facility in Northern Zambia, where freight can be transferred from road to rail. A number of road hauliers are active on this route. It has been assumed that a new intermodal (road to rail) facility will be available in Chingola, 45km by road from the DRC/Zambia border at Kasumbalesa. Zambia Rail (ZRL) and a number of private logistics companies are considering developing more rail linked facilities further north of Kitwe, which is currently the northern most and closest rail linked facility to the border with the DRC. Bagged concentrate will then be packed into 20ft containers at the port.



Incidentally, the use of an operational line between Kolwezi and Lobito port is not exclusively dependant on the rehabilitation of the rail infrastructure. It needs a joint agreement from both countries' respective governments, in addition to completing an institutional framework that should govern these operations. It also requires the DRC national rail authority (SNCC) to award a private concession to upgrade and operate the rail.

Fortunately, there are no major road restrictions in terms of load sizes and masses for transporting equipment to site. The two bridges between Lubumbashi and Kolwezi that were a restriction in the past have now been upgraded to carry abnormal loads.

Currently freight from South Africa to Kamoia takes about three weeks, including customs clearing. During construction, the report advises, it will be critical to implement an efficient logistics process flow, expediting and tracking system to avoid construction delays.



### Three Different Mine Development Options On The Cards

The Mineral Resource grade of Kakula is significantly higher than that of Kamo, and for this reason the analysis of the project considers the separate and combined development of the two areas. Three potential development scenarios have thus been identified:

- Initial mine development scenario based on Kakula only (Kakula 6 MTPA PEA). The Kakula 6 MTPA PEA evaluates the development of a 6 MTPA underground mine and surface processing complex at the Kakula Deposit as the project's first phase of development.
- Expanded, two-mine development scenario. The Kamo-Kakula 12 MTPA PEA evaluates an integrated, 12 MTPA, two-stage development, beginning with initial production from a 6 MTPA underground mine and surface processing complex at the Kakula Mine, to be followed by a subsequent, separate 6 MTPA underground mining operation at the nearby Kansoko Mine and an associated expansion of the surface processing facilities at Kakula, as well as the construction of a smelter. As the mining at Kakula and Kansoko deposits is completed, mining activities will be extended to include the Kamo North deposits to the north of Kansoko in order to sustain a 12 MTPA production rate.
- Kamo 2017 PFS. The Kamo 2017 PFS evaluates the development of the Kansoko Mine as a stand-alone 6 MTPA underground mine and surface processing complex that would be supplied with ore from the planned development of the Kansoko Sud and Kansoko Central areas of the Kamo Deposit, which were discovered in 2008.

The analysis for each scenario assumes the construction and operation of underground mines, concentrator

processing facilities, and associated infrastructure. The base case mining rate for each mine is 6 MTPA.

### Future Recommendations

The Report recommends that the next phase of study should be to prepare a PFS on Kakula. These additional studies will assist in further defining the scope for the next studies of the overall development of the entire Kamo-Kakula Project. Key areas for further studies include the following:

- Commence PFS of the Kakula deposit.
- Revisions and updates of the long-term whole of project planning as the Mineral Resources are further defined. Including expanding and optimising the project production rate by considering concentrator and smelter capacities that are matched to the power supply availability, mine production and transport options.
- Other mining areas and additional mines from the Kamo deposit.
- Rail transport to Lobito.
- Continue infill drilling programme to upgrade resource categorisation, enhance geotechnical database and its application to mine design and ground support, and better understand the continuity of the deposit and impacts on productivities and dilution.
- Consider an underground exploration programme at Kamo to attain first-hand information on actual mining conditions and to validate design assumptions.
- Complete hydrological studies and data evaluation to better determine impacts on underground mining conditions and productivities.

The independent report was prepared for Ivanhoe Mines by OreWin Pty Ltd., Amec Foster Wheeler E&C Services Inc., MDM (Technical) Africa Pty Ltd., SRK Consulting Inc., Stantec Consulting International LLC, Golder Associates Ltd. and KGHM Cuprum R&D Centre Ltd.

[https://www.ivanhoemines.com/site/assets/files/3634/kamo-kakula\\_2017\\_development\\_plan\\_-\\_january\\_2018.pdf](https://www.ivanhoemines.com/site/assets/files/3634/kamo-kakula_2017_development_plan_-_january_2018.pdf)

**CONTAINERS DELIVERED BY RAIL FROM PORT OF MOMBASA INCREASE BY 233 TEUS**

Kenya Ports Authority (KPA) has announced that containers delivered up-country by rail from the Port of Mombasa recorded 671 TEUs, registering an increase of 233 TEUs compared to the previous week. The announcement was made by KPA Managing Director, Mrs. Catherine Mturi-Wairi, on 14 February while addressing Port stakeholders.

During the scheduled weekly meeting, Kenya Railways Corporation (KRC) Managing Director, Mr. Atanas Maina, also introduced his team that has been deployed to Mombasa to ensure fast and efficient rail bound cargo evacuation from the port by the Standard Gauge Railway. The stakeholders hailed the initiative by KRC and welcomed the officers whom they said were equal to the task given their past experience. Mr. Maina assured stakeholders that marketing efforts for the SGR service by his team would be above board.

Road freight figures, however, showed a noticeable decline. Containers delivered from the Port of Mombasa to the Container Freight Stations (CFS) recorded



5,783 Twenty Feet Equivalent Units (TEUs), registering a decline of 1,615 TEUS or 21.8% in the week ended February 7<sup>th</sup>.

Great Lakes (APM) and Portside Freight CFSs reported the highest declines of 284 TEUs and 241 TEUs respectively. However, deliveries to Autoport and Signon Freight registered a growth of 37 TEUs and 28 TEUs respectively. Transit containers delivered by road between 07:00-19:00 registered

3,373 TEUs while deliveries between 19:00-07:00 recorded 2,173 TEUs.

Port stakeholders were also told 13 container vessels docked at the Container Terminal berths during the week. The ships recorded ship average working time of 2,24 days as Import Container Dwell time registered 3,71 days. Ship turnaround time was given as 56.83 hours. (This is the time difference between ship entering port area and exiting).

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# PIDA Implementation Progress Report 2017: Mapping Out Africa's Developed, Interconnected Future

The recently released Programme for Infrastructure Development in Africa (PIDA) Implementation Progress Report 2017 provides details on the collaborations between all PIDA stakeholders who shared information on projects and interventions on the ground, as well as progress being made. Railways Africa brings you all the transport-related feedback contained in this extensive, “must read” report.

The third Programme for Infrastructure Development in Africa (PIDA) Week brought together investors, national governments, African infrastructure project owners, and many experts in their respective fields to highlight priority infrastructure projects and solicit financial support. The five day summit, held in Swakopmund, Namibia over December, detailed how these projects could add more than 1 million local jobs and boost the quality of life of all citizens across the continent – all that is required is some incredibly detailed planning, committed multi-national collaborations and lots of money.

Dr Ibrahim Assane Mayaki, NEPAD Agency CEO and author of the new PIDA Implementation Report's forward, raises some interesting points – the most prominent being the pressing need to create millions of meaningful jobs across the continent. The second key issue he highlights is infrastructure financing, as closing the huge infrastructure deficit is considered vital for Africa's economic prosperity and sustainable development going forward.

## Job Creation

Currently, half of Africa's population of 1.1 billion is under 25 years of age. Extrapolating the numbers, it is estimated that 300 million youth will enter African labour markets until 2030. Additionally, there is a mismatch between skills demand and supply to absorb this socio-economic capability via a well-educated and skilled workforce. In fact, the African Union (AU) recognised this potential by naming

2017 as the year of “Harnessing the Demographic Dividend through Investments in Youth”.

In March the same year, AU Member States' Ministers for Transport, Transcontinental and Interregional Infrastructure, Energy and Tourism added further support to the cause, emphasising regional infrastructure development as a key leverage to create jobs. And they are not alone. Both the NEPAD Agency and the African Development Bank (AfDB) have reaffirmed their commitment to ensure employment opportunities are included in infrastructure project designs to create inclusive growth and sustainable development in Africa.

In fact, this common sentiment was underscored by this year's theme for PIDA Week: “Regional Infrastructure Development for job Creation and Economic Transformation.”

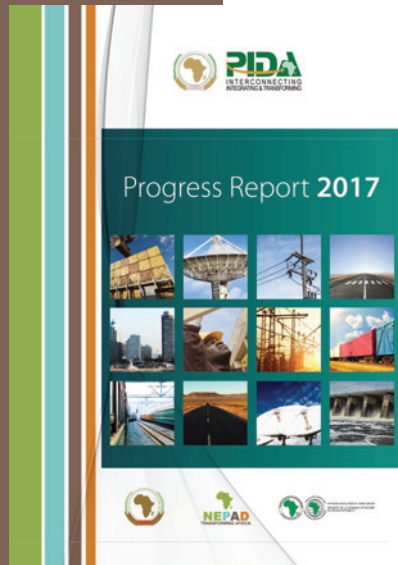
## Infrastructure Financing

The costs of closing Africa's infrastructure gap are enormous. The PIDA project is expected to cost around US\$360 billion between 2011 and 2040, with significant investments required by 2020. Understandably, such costs are beyond the financing capacities of African governments, or even Development Finance Institutions (DFIs) and Multilateral Development Banks (MDBs). Therefore, a concerted effort has to be made to bring on-board all stakeholders that can pool in funds towards the financing of PIDA's ambitious agenda.

When it comes to attracting private sector participation in infrastructure projects, Public-Private Partnerships (PPPs) are considered essential. And in his capacity as NEPAD Agency CEO, Dr Mayaki is only too aware that successful PIDA delivery will depend on effective PPPs. The way he sees it, for private investors to come on board, governments need to create the right legislative, regulatory and institutional environment. To help this process along, the Continental Business Network (CBN) is continuing its agenda towards de-risking infrastructure projects as a key element in attracting private sector financing.

Pension and Sovereign Wealth Funds emerged as the key catalyst to close this financing gap. With this in mind, the NEPAD Agency, under the guidance of the CBN, initiated the “5 Percent Agenda” in September 2017. This revolutionary, Africa-led and Africa-owned campaign aims to increase the allocations of African asset owners to African infrastructure projects, from its current low base of approximately 1.5% to a more impactful 5%.

The plan going forward is to work with Pension and Sovereign Wealth Funds, including Ministers of Finance, to gradually increase infrastructure investments, using the financial resources available on the continent to mobilise financial and global institutional investments.



To download and read the full PIDA Implementation Progress Report 2017 visit:

<http://www.au-pida.org/download/pida-progress-report-2017/>

### PIDA Week 2017

The first Programme for Infrastructure Development in Africa (PIDA) Week was inaugurated by the African Union Commission (AUC), the NEPAD Planning and Coordinating Agency, African Development Bank (AfDB) and the United Nations Economic Commission for Africa (UNECA) back in 2015. The 51 programmes and projects supported by these organisations are intended to fully interconnect, integrate and transform the African continent. They are also considered important for the implementation of the African Union's Agenda 2063, as well as seen as stepping stones towards reaching the sustainable developments goals envisaged for the continent.

The third PIDA Week took place in Swakopmund, Namibia over five days during December. Its theme: "Enhancing Trade and Economic Transformation through Regional Infrastructure Development". Apart from the original stakeholders mentioned above, other attendees included Regional Economic Communities, member States, development partners, financial institutions, consulting firms, banks, civil society, academia and the media. What it did was provide project owners and sponsors from both public and private institutions with an opportunity to interact and leverage financing for the key PIDA projects.

Main topics on the agenda:

- Accelerate project preparation and implementation.
- Mobilise adequate financial and technical resources for projects.
- Increase private sector participation in PIDA implementation.
- Mobilise countries to integrate PIDA projects into their national development plans.

## Two Big PIDA PAP Projects Destined To Unlock The Continent

The PIDA Priority Action Plan (PIDA-PAP) extends to the year 2020 and comprises 51 programmes divided into 433 projects covering transport, energy, information and communication technology (ICT) and trans-boundary water sectors.

That said, here are the two major transport-related projects that are anticipated to unleash economic growth on the African continent:

### 1. High Speed Rail Network (HSRN) Project

The Continental High Speed Railway Network Project (HSRN) is an AU Commission-led initiative designed to interconnect all African capitals - including major economic, commercial and industrial hubs - with appropriate high speed rail infrastructure/technology, as well as all complementary electricity/power, water, ICT broadband infrastructure and services.

The African Union Commission (AUC) and the Peoples Republic of China, signed a Memorandum of Understanding (MoU), in January 2015, to promote Sino-Africa Cooperation in Continental Transport, High Speed Railway, Aviation, Roads and Highways, and Industrialisation Infrastructure development in Africa. To operationalise the signed MoU, the AUC and China developed a joint high speed railway technical planning framework of Vision 2063: African Integrated High Speed

Railway Network (AIHSRN), as well as a 5-year road map.

The objective of the Project was to assess the technical feasibility of the AIHSRN Project, through a process of high level Detailed Scoping Study (DSS), and the establishment of the Project Implementation Unit (PIU) - Phase 1 - to final feasibility studies and detailed engineering design stage (Phase 2). The outcome of the high level DSS will provide the basis for further consultation with key stakeholders, and for informed decision-making, allowing them to move on to Phase 2 of the Project Initiative.

### Current Status

A Request for Expression of Interest (REoI) was launched in August 2016. However, soon after the launch, the project experienced administrative and funding challenges. In June 2017, the NPCA and the TCT met in South Africa and reviewed the 20 Technical Proposals received from respondents who expressed interest to undertake the DSS. The eight most responsive firms to the Expression of Interest were shortlisted, and will now be invited to submit Technical and Financial Proposals so they can undertake the high level DSS studies.

A planned Evaluation Workshop took place between 11-15 December 2017 to evaluate the Technical and Financial Proposals received from the 8 shortlisted firms. The draft-study Terms of Reference (ToR), and draft individual experts' ToRs, were finalised by NPCA and the TCT to complement the Request

for Proposal (RfP). Invitations were issued end-October 2017.

Negotiations for the recruitment of the consultancy firm, and signing of the contract, is scheduled for end-February 2018, given the busy AU/NEPAD statutory meetings and summits, scheduled in January 2018. The DSS Consultancy study is provisioned for 6 months, beginning March 2018 – end August 2018.

The Agenda 2063 Results Framework, sets out two implementation targets for the HSRN Project: Namely, 20% 'network completion' of at least the first-set of regional HSR network by 2023; and a similar target of 20%, for the second-set of regional HSR network, to be completed by 2025.

These two regional HSRN pilot projects essentially constitute the main components of the First 10-Year Implementation Plan of Agenda 2063 AIHSRNP. Hence, to accelerate the implementation of the above two regional pilot projects – the need to adopt a “willing and ready” strategy of member countries (and their RECs) with national/regional high speed railway network development programmes/plans – is seen as the most prudent strategy to adopt.

## 2. One Stop Border Posts (OSBPs)

The OSBP project is a JICA-NEPAD joint-flagship initiative to improve trade facilitation across the continent. Since the establishment of the first OSBP at Chirundu between Zimbabwe and Zambia in 2009, the concept and development of OSBPs have expanded rapidly as one of the major tools to tackle impediments to African trade growth, including the recently operationalised Rusumo OSBP between Rwanda and Tanzania.

There are around 80 OSBPs in various stages of implementation. Considering that OSBPs are now one of the continent's highest priorities and integral part of PIDA, NEPAD, ICA and AfDB, along with JICA, updated and revised the 1st edition of the OSBP Sourcebook (2011) on the basis of recent good practices and lessons learned.

To this end, a series of workshops were held with active participation from specialists working across the continent. Here's what took place:

- A preparatory workshop was held in Nairobi, Kenya in February 2015.
- The first 3-day technical workshop for this project took place in Abidjan, Côte d'Ivoire, during September 2015.
- A 2<sup>nd</sup> 3-day technical workshop was conducted in Johannesburg, South Africa, in October 2015.
- Finally, a Learning and Validation Workshop was held in Addis Ababa, Ethiopia, during March 2016.

The Sourcebook was officially launched at the continental level during the TICADVI side event: “Boosting Intra-African Trade: A Key for Regional Economic Integration and African Competitiveness” held in Nairobi, Kenya in August 2016.

## Other Priority Road And Rail Projects You Should Know About

The NEPAD Agency, under its Regional Integration Infrastructure and Trade Programme (RIITP), selects priority projects for each year based on the African Power Vision (APV), the Dakar Financing Summit (DFS) and Presidential Infrastructure Champion Initiative (PICI).

Here are the priority transport infrastructure projects (road and rail) earmarked by the latest PIDA Report, showing progress made to date, challenges encountered and the way forward:

### 1. Abidjan-Lagos Corridor: Acceleration Programme ECOWAS

Ministers approved the institutional and legal design of the trans boundary institutional authority to manage Abidjan Lagos Corridor Abidjan Lagos Corridor Management Authority (AlCoMA). This is the first transnational project management corridor authority in Africa that has the authority for front-end corridor planning/implementation (preparation, construction, operations, management and maintenance).

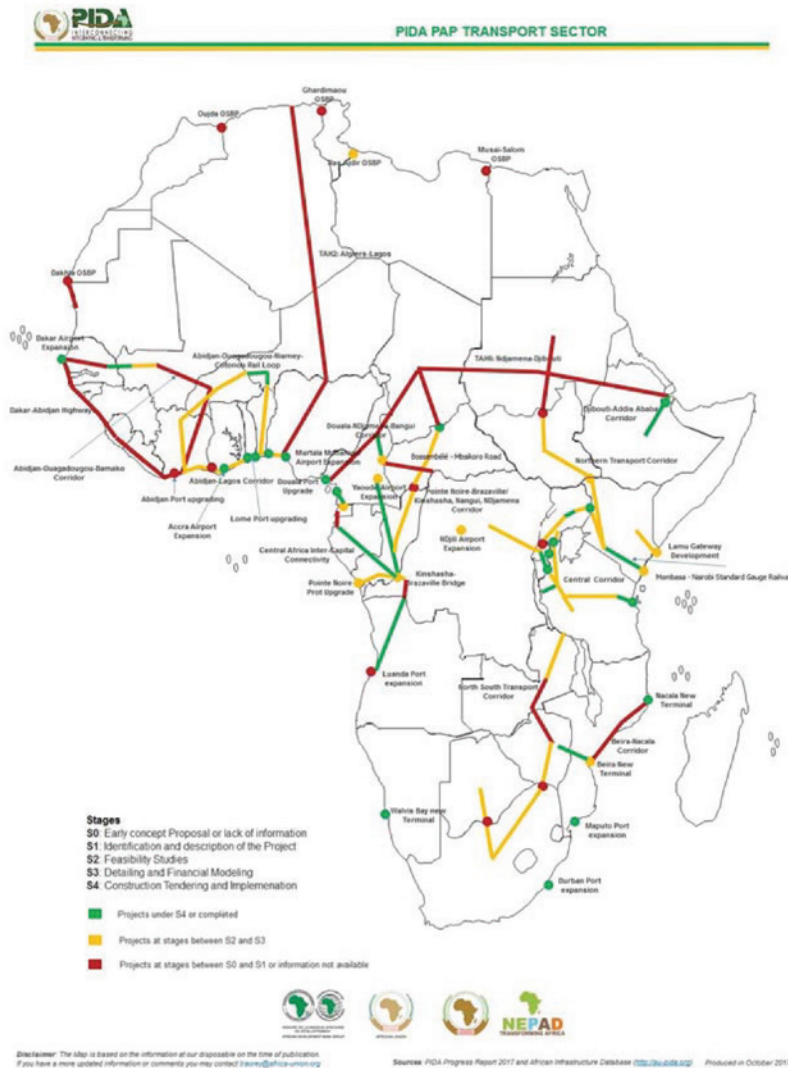
### Private Sector Participation and the “5 Percent Agenda”

The “5 Percent Agenda” is a campaign to increase investment allocations by African institutional asset owners into African infrastructure from its current low base of about 1.5% of assets under management to a more impactful 5%, and to do so within five years. Therefore, the 5% Agenda is aimed at increasing pension and sovereign investment into Africa's infrastructure. It is a follow-up to the 2016 Continental Business Network (CBN) meeting on “Derisking Africa's infrastructure and PIDA projects,” which emphasised the need for Pension and Sovereign Wealth Funds to increase investments into African infrastructure.

The anticipated impact of the 5% Agenda will be to achieve the following:

- Unlock notable and measurable pools of needed capital to implement regional and domestic infrastructure projects in Africa.
- Broaden and deepen the currently shallow African capital markets, whilst at the same time contributing significantly to regional integration and job creation.
- Promote the development of innovative capital market products that are specific to the continent's challenges with regards to infrastructure development.
- Raise the investment attractiveness for other institutional and non-institutional financiers who have thus far been hesitant to include African infrastructure projects as an asset class in their investment portfolios.

The NEPAD Agency, under the guidance of the African Union, will continue to work closely with UNECA and other strategic partners, like the Multilateral Development Banks, to ensure that the 5% Agenda demonstrates tangible results within the next five years, with African institutional investors increasing their investments significantly into African infrastructure.



Here are some pertinent facts and a timeline of progress made to date:

- Commission as the client of NEPAD SDM services: Advisory Services for the Early Stage Preparation of the Abidjan-Lagos Corridor Highway Development Programme.
- Flagship ECOWAS program; 1028km long corridor; serving about 75% of regional trade.
- The Presidents of Benin, Cote d'Ivoire, Ghana, Nigeria and Togo agreed to the construction of a 6-lane highway from Abidjan to Lagos. They signed a treaty formalising the agreement in March 2014.
- July 2016 - August 2017, consultative SDM process between NEPAD, ECOWAS, Corridor Member States, GIZ and consultants.
- Design an institutional arrangement to guide preparation, construction, operations and management/maintenance of corridor.
- Draft legal instruments.
- And, finally, create communication material.

### The PIDA Priority Action Plan (PIDA-PAP)

The PIDA Priority Action Plan (PIDA-PAP) extends to 2020 and comprises 51 programmes divided into 433 infrastructure projects covering transport, energy, information and communication technology (ICT) and trans-boundary water sectors. PIDA PAP will allow countries to meet forecast demand for infrastructure services and boost competitiveness by facilitating the following:

- Increasing efficiencies
- Accelerating growth
- Facilitating integration in the world economy
- Improving living standards
- Unleashing intra-African trade

While it is difficult to accurately project the capital cost of PIDA's long-term implementation through to 2040 (currently estimated at more than US\$360 billion), the overall capital cost of delivering the PAP from 2012 through 2020 is expected to be nearly US\$68 billion, or about US\$7.5 billion annually for the next nine years.

Energy and transport projects and programmes represent around 95% of the total cost - demonstrating the critical need for transformative investments in these sectors to support African trade, promote growth and create jobs. Investment needs for ICT and water represent lower percentages.

Moving forward, the plan is to continue the consultative process between project states and ECOWAS.

### 2. North-South Corridor (Including Serenje-Nakonde and Beitbridge OSBP)

The NSC is a key infrastructure development programme for the Tripartite and is supported by all development partners active in the region. The Corridor links the port of Dar-es-Salaam (Tanzania) to the Copperbelt sub-region (Southern DR Congo and Northern Zambia), and connects the Copperbelt to the southern ports of South Africa, specifically the port of Durban. The Corridor system, with its spurs, services eight countries - Tanzania, DR Congo, Zambia,

Malawi, Botswana, Zimbabwe, Mozambique, and South Africa.

- The project is defined as a multi-modal (road, rail and ports) trans-continental interconnector, ultimately joining Cape Town in the south and Cairo in the north.
- South Africa champions this project, which will involve numerous countries and RECs.
- The project entails several components, all of which are in various stages of the development lifecycle. These include road, rail, bridge, border post and energy projects.
- In the short term, 1,041km of road must be upgraded, with another 5,156km due for upgrading in the next 2 - 5 years.

A study conducted in 2009 identified critical links in the NSC that needed immediate attention in terms of rehabilitation. The primary aim of the intervention on these links was to reduce the time, and so the costs, of road and rail transport along this priority Corridor traversing the region. The Tripartite (COMESA, EAC, and SADC) received grant financing of US\$4.9 million to undertake project preparation studies.

The objectives of these studies were to improve the conditions of some critical road sections along the NSC by undertaking feasibility, environmental and social impact assessments, detailed engineering design and preparation of tender documents for their proposed rehabilitation. The road sections are the 64km Pandamatenga - Nata and the 111km Palapye - Martins drift (border with South Africa) road sections in Botswana; the 234km Kamuzu International Turn Off (M1) - Mzimba Turn Off section in Malawi, the 120km Bulawayo - Gwanda link, and the 200km Gwanda - Beitbridge road section in Zimbabwe.

The cost breakdown for the studies is as follows: NEPAD-IPPF US\$4,5 million (90.8%) and the Tripartite US\$455,533 (9.2%). The IPPF grant financed the main consultancy services to produce the feasibility studies, detailed engineering design, drawings, and tender documents. The Tripartite contribution will support activities related to the organisation of workshops to review

reports and other outputs, and provision for a contingency.

### 3. Dakar-Bamako Rail Revitalisation Project

This is a combination of the Trans-African Highway 5 (Dakar to N'djamena) and 6 (N'djamena to Djibouti), a total of 8,715km. This corridor (Dakar-Djibouti) includes: Senegal, Mali, Burkina-Faso, Niger, Nigeria, Cameroon, Chad, Sudan, Ethiopia and Djibouti.

- The Dakar-Bamako Rail Project has been prioritised by the Government of Senegal as the first phase of the Project. It entails the rehabilitation of the existing railway network between Dakar and Bamako (1,228km).
- The total cost of this project is US\$2.2 billion, and was featured as one of the bankable PIDA projects during the Dakar Financing Conference held in June 2014. WAEMU organised a meeting with the funding institutions in Dubai in September 2014. The Senegalese Government is negotiating with Chinese companies and other partners to fund the project. However, indications are that the Chinese will not fund the entire project.
- The project has been divided into three phases, and the Senegalese government is determined to proceed with or without the Chinese funding.
- It is expected that the project implementation phase will start before 2018.

All the technical studies are completed and awaiting Chinese funding. The government of Senegal was determined to go ahead with the project in 2017.

### 4. Kinshasa-Brazzaville Road And Rail Bridge

This project involves the construction of a fixed crossing linking Kinshasa and Brazzaville (DRC and Republic of Congo) - ensuring continuity in railway and road traffic to the eastern border of DRC and beyond, as well as facilitating railway and road interconnections in Central, Eastern and Southern Africa.

- Studies of the Rail/Road Bridge between the cities of Brazzaville and Kinshasa (PRR) and the extension of the Kinshasa-Ilebo Railway (CFKI) have been completed.
- The method of financing: Public-Private partnership or concession type.
- A referral was made to the African Legal Support Facility to support the two states in project formulation and contracting.
- A search for financing for the construction of the project was registered with the AfDB in the 2017 action program. A joint financing request to the AfDB was also signed.
- An ECCAS request for funding for this project is also in the process of being signed.
- The proposed preparation/identification mission by the AfDB was scheduled for March/April 2017.

ECCAS has taken chair of this project and US\$2 million has been assigned for the studies. All the other studies have been completed (except geotechnical). It is recommended that, given the progress of the project, the PICI Champion HE President Denis Sassou Nguesso should now be more engaged in the project so that a financial close can be accelerated. In this regard, the NEPAD Agency and ECCAS will work closely together to facilitate this through the PICI process.

### 5. Lamu Port South Sudan Ethiopia Transport Corridor (LAPSSET)

The LAPSSET Corridor Program is a regional flagship project intended to provide transport and logistics infrastructure aimed at creating seamless connectivity between the Eastern African Countries of Kenya, Ethiopia and South Sudan. The corridor comprises inter-regional highways totalling 2,618km from Lamu to Isiolo, Isiolo to Juba (South Sudan), Isiolo to Addis Ababa (Ethiopia), and Lamu to Garsen (Kenya). In total, 363km is in South Sudan, 1,769km in Kenya and 500km in Ethiopia.

- The LAPSSET Transport Corridor Project is the latest addition to the PICI project list.
- Studies on LAPSSET Corridor were commissioned and completed in November 2011.
- The Studies concluded that each component of the project had a good economic rate of returns.
- The construction of the LAPSSET plaza is completed, as well as the LAMU Port police station.
- Electricity has been delivered from Rabai to Lamu port to power the infrastructure.

In Kenya, WB and AfDB are financing some of the projects. The Kenyan Government signed a US\$480 million agreement with a Chinese firm for the construction of the first three berths of Lamu Port in August 2014. The three berths will serve general, bulk and container cargo. The Contractor for the construction of the first three berths (out of 32) is on site. The berths are expected to be completed in 2019 at an estimated cost of US\$412 million. The Isiola-Moyale road construction of about 505km was completed in 2016.

After construction, the berths will be operated by a private concession and the construction of the remaining berths will also be based on PPPs. The Economic Internal Rate of Return (EIRR) is estimated at 21.6%, complemented by crude oil anticipations in Kenya and Uganda.

Moving forward, the need to present this project as a truly regional project, rather than a national project is considered urgent. There is a need to relaunch this project and get all the Heads of State of the four countries (Kenya, Ethiopia, Uganda and South Sudan) actively involved. In addition, there is also a need to create an overarching Coordinating Structure that includes all the member states that will be responsible for the implementation of the Project.

## Regional Progress Updates

### 1. Southern African Development Community (SADC)

#### PROJECT: One Stop Border Posts (OSBPs)

**CURRENT STATUS:** The progress of key border posts in SADC region is as follows:

##### Beitbridge

The Presidents of South Africa and Zimbabwe recently agreed to fast-track the operationalisation of the Beitbridge One Stop Border Post (OSBP), and welcomed the establishment of the Joint Technical Committees (JTCs) who will develop the necessary legal framework. A joint benchmarking mission to Chirundu was undertaken by South Africa, Zambia and Zimbabwe.

The following next steps are recommended by the Secretariat:

- Formulation of comprehensive bilateral “road map” for the operationalisation of the Beitbridge OSBP.
- Integration of the Beitbridge Master Plans between Zimbabwe and South Africa.
- Finalisation of the legal process at both national and bilateral levels.
- Functionalisation of the Institutional framework at both national and bilateral levels.

##### Kazungula Bridge

This on-going project consists of three elements: the bridge’s physical structure, the OSBP facilities on the Botswana side, and the OSBP facilities on the Zambia side.

Progress (as of August 2017) is as follows :

- Bridge to be completed in January 2019.
- The OSBP on the Botswana side to be completed in September 2018. It is being financed by Botswana and JICA.
- The OSBP on the Zambia side to be completed in December 2019. It is being financed by Zambia and AFDB.
- Both Botswana and Zambia have OSBP laws in place.
- There is need for the creation and signing of an OSBP Bilateral Agreement between Zambia and Botswana.

#### Chirundu Border Post

The following points are current observations regarding Chirundu:

- Current practice of scanning every truck is causing additional delays.
- Risk management procedures should be reviewed bilaterally.
- Detailed assessments, such as time release or time measurement surveys, should be done bilaterally in order to identify actual bottlenecks.

#### Martins Drift Border Post

This border post is fast becoming a major bottleneck, as a result the Secretariat is recommending that a two-way bridge be constructed, and the border post be made into an OSBP.

## 2. Economic Community Of West African States (ECOWAS)

#### PROJECT: Abidjan-Lagos

**CURRENT STATUS:** The Steering Committee has met 8 times and the key achievements to date are as follows:

- Ratification of the Treaty by Member States.
- Signing of loans/grants.
- Driving the progress of the procurement plans for project activities.
- Approval of the Institutional Structure of ALCoMA and the Legal Documents for the Corridor and its Management Structures.

#### PROJECT: Dakar-Abidjan

**CURRENT STATUS:** The Treaty was finalised and signed by Presidents of Member States at the ECOWAS Authority of Heads of State and Government on 4<sup>th</sup> June, 2017 in Monrovia, Liberia.

The following achievements were registered:

- Evaluations of Expressions of Interest (EoIs) have been completed.
- Draft request for Proposals completed and to be sent to AfDB for approval.

## GHANA, BURKINA FASO REACH UNDERSTANDING ON RAIL PROJECT

The governments of Ghana and Burkina Faso have signed major agreements on the proposed railway interconnectivity project between the capital cities of both countries.

The signing of the agreements took place on 22 February in Accra, after a three-day meeting of the Joint Committee of Experts on the Accra-Ouagadougou rail interconnectivity project showed the commitment of the two countries to intensify efforts to commence the construction of the railway line.

The agreement was jointly signed by the Minister of Railways Development, Joe Ghartey and Minister of Transport, Urban Mobility and Road Safety of Burkina Faso, Vincent T. Dabilgou. In it, both

countries agreed that Ghana should choose the Transaction Adviser for the project, while Burkina Faso nominates a contractor.

The role of the Transaction Adviser is to assist the governments of Ghana and Burkina Faso to review and undertake various studies, including the survey works. The Transaction Adviser is also expected to go through a procurement process in line with applicable laws of the two countries, and engage a private sector investor to develop the proposed railway interconnectivity project between the Port of Tema and Ouagadougou on a Build, Operate and Transfer (BOT) basis.

The Ministry of Railway Development, Ghana and the

Ministry of Transport, Urban Mobility and Road Safety of Burkina Faso, are both spearheading the project.

The Joint Committee of Experts recommended the adoption of the most efficient method of procurement, such as sole-sourcing or restrictive tendering process for the engagement of the Transaction Adviser.

The committee is scheduled to meet again, in March in Ouagadougou, to present the potential Transaction Adviser, review and adopt the terms of reference for the Transaction Adviser, set the timelines for selecting the Transaction Adviser and the Private Sector Partner, as well as prepare the final report of the Joint Committee of Experts.

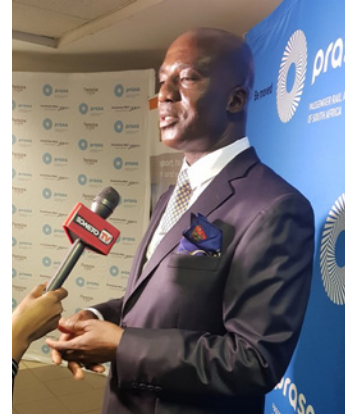
## LONG DISTANCE TRAIN SERVICE REINTRODUCED BETWEEN JHB - POLOKWANE - MUSINA RETURN



The Passenger Rail Agency of South Africa (PRASA) is pleased to announce the reintroduction of the long distance passenger service between Johannesburg and Musina via Polokwane, effective from Wednesday 28 February 2018. This service was withdrawn in 2014 due to the rationalisation of train services. However, due to popular demand Main Line Passenger Services have decided to reinstate it. The train will cater for Polokwane, Musina and Zimbabwean customers crossing the border.

“Shosholozza Meyl has been inundated with requests from customers, pleading for the return of the service. Management evaluated the request thoroughly and reached a decision to reinstate the service. This comes in light of supporting the PRASA corporate plan in transporting our customers at an affordable cost. All this can be experienced from as little as R100 for Economy Sitter Class and R160 for Tourist Sleeper Class,” says Mr. Mthuthuzeli Swartz, Acting PRASA Rail CEO.

The journey between Johannesburg and Polokwane takes 8 hours, and the longer journey to Musina is 10 hours from departure. Security is available on board to ensure all customers enjoy a pleasant and safe experience. The train will have a dining car that will provide meals, tea/coffee and refreshments at an affordable price. The train stops at intermediate stations such as Germiston, Pretoria, Hammanskraal, Bela Bela, Naboomspruit, Mokopane, Polokwan



Via Twitter: Department of Transport (@DoTransport) - Feb 23  
Minister @Joemaswanganyi6 says outline route will be launched such as Joburg to Mafikeng and Botswana and Joburg to Nelspruit and Mozambique as well new route from East London to Mtata and Durban to East

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