

A Transport & Logistics Magazine

# Safirisha

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**Two Years of  
Building  
Consensus  
for Optimal  
Port  
Operations**





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## FROM THE EXECUTIVE EDITOR'S NOTE



### SAFIRISHA MAGAZINE

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### TWO YEARS OF SOLID GAINS IN THE TRANSPORT AND LOGISTICS INDUSTRY

There comes a time when a leader emerges with unique insights and a clear vision to propel her nation to greater developmental heights.

Such a leader would not bulldoze everyone into submission but would seek to explain her vision and build consensus among her compatriots on the best course of action to take.

In Tanzania, that leader is President Samia Suluhu Hassan. As she took office, in March 2021, the global economy was in dire straits.

The Covid-19 pandemic had forced the closure of economically productive activities. Global and domestic travel came to a halt. To make matters worse, the end of the scourge was not foreseeable, amid pessimistic predictions of the worst yet to come. Any politician would cringe at the very idea of being entrusted with the hard task of leading a nation in the midst of that pandemic.

Nevertheless, President Samia assumed her responsibilities with gracious coolness, and she went ahead to prevent further sliding of the economy. She immediately embarked on a difficult mission to integrate Tanzania back into the comity of nations after five years of self-isolation.

At the same time, she devised recovery plans and mobilised domestic and external resources to finance those plans.

She led from the front like the indefatigable and courageous general who was sure that victory would come with dawn.

The recovery strategies whose implementation she oversaw started turning around Tanzania's economic fortunes with amazing speed.

Two years on, recovery in all sectors of the economy has surpassed pre-pandemic levels.

But the ingenuity of President Samia was in realizing the potential of the transportation sector in transforming the Tanzanian nation.

This could be one of the reasons that she chose to continue with the grand infrastructure projects initiated by her predecessor at a time when it was risky to do so given the economic situation of the country and of the world.

And so, since she came to power, she has been quietly preparing stakeholders for her strategies for the transportation sector.

One of the first things she did when she came in was restore the confidence of private players in the sector. Relations between the government and private players in the transportation sector had been at an all-time low.

The tax collectors and regulatory authorities had turned into enemies, out to get fleet owners and other players in the transportation sector.

It seems as though there was some secret agenda to nationalise all the most important aspects of Tanzania's transportation. But when she came into office, President Samia changed all that. We urge all stakeholders in the industry to rally behind President Samia to make Tanzania a transportation hub of choice in these parts of the world.



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## UNDER PRESIDENT SAMIA SULUHU HASSAN ROADS FUND BOARD CRUISES TO NEW HEIGHTS

For the Roads Fund Board, the proverb "numbers don't lie" holds true. This is due to the fact that, as implied by its name, the Roads Fund Board's effectiveness and performance are determined by the amount of money it brings in. And the Board has excelled in this.

According to Eliud Nyauhenga, the Roads Fund Manager, the Board has collected Sh 1.027 trillion from road and fuel tolls under the direction of President Dr. Samia Suluhu Hassan during the financial year 2021/2022. By contrast, the Board collected Sh 806.7 billion in the financial year 2019/2020.

And in a feat that shows the commitment of Hon. Dr. Samia to preserve and protect Government's investments in road infrastructure, the Government has been disbursing all the funds collected to finance maintenance of roads in the country, Mr. Nyauhenga says.

This has facilitated the implementation of planned road maintenance projects, allowing Tanzania to maintain its significant investment in road maintenance while also enabling an increasing number of road users to benefit from improved roads, he adds.

"From the financial year 2021/22, the Sixth Phase Government has been allocating over Sh 440 billion annually specifically for improving rural and urban roads. This has led to an improvement in the standards of the rural road network as well as opening up areas that were previously inaccessible," Mr. Nyauhenga notes.

"All these improvements in the rural road network by the Government have made social and economic services accessible to more citizens," Mr. Nyauhenga reveals. Explaining in more detail the accomplishments of the Sixth Phase Government, Mr. Nyauhenga said under President Samia's leadership, 50,000 kilometres of National and District roads are now being maintained annually.







Additionally, Dr. Samia has made it possible for 90% and 60%, respectively, of national and district roads to be passable all year long.

The fact that President Dr. Samia made it possible for more than 4,000 women to obtain temporary employment in the maintenance of district roads is another historic achievement.

Mr. Nyauhenga, who is the immediate past chair of the African Roads Maintenance Funds Association (ARMFA)—East Africa Focal Group—advises Tanzanians to maintain roads so as to support the Government's efforts to bring socio-economic development to the country.

Protecting roadside furniture, avoiding the dumping of trash and other debris into road drainage systems, and re-routing livestock away from roads are the best ways to help maintain roads, he notes.

"The Government has made significant financial investments in Tanzania's primary mode of transportation—its road infrastructure. As a result," Mr. Nyauhenga pointed out, "any damage to this vital infrastructure results in enormous losses for the Government and the denial of transportation services to a large number of people."

The Roads Fund and Roads Fund Board came into operation in 2000 after the enactment of the Roads and Fuels Tolls Act. The Board is comprised of nine members: four from the public sector and five from the private sector.



## TWO YEARS OF BUILDING CONSENSUS FOR OPTIMAL PORT OPERATIONS

Tanzania has made great strides towards restoring and reintegrating its logistics chains into the global economy over the past two years that President Samia Suluhu Hassan has been in office.

The results have been phenomenal across all modes of transport. In the aviation sector, passenger and cargo traffic handled in 2022 easily surpassed pre-pandemic levels by 2 percent and 32 percent, respectively.

The remarkable performance has been recorded despite the fact that aircraft movement at Tanzanian airports remained below pre-pandemic levels by 15.4 percent.

Indications show that these gains will be maintained or even surpassed this year as more airlines launch direct flights to the Julius Nyerere International Airport (JNIA).

Saudia Airlines made its maiden flight to JNIA on March 26, 2023. Air France is set to restart flying directly to Dar es Salaam from Paris on June 12, 2023. On land transport, President Samia has exceeded expectations in the two years she has been in power.

When the late President John Magufuli initiated several megatransport infrastructure projects a few years ago, analysts worried that the projects would put too much strain on the national budget.

The mega projects included the construction of the Standard Gauge Railways, the revival of Air Tanzania Company Limited, and the building of flyovers in Dar es Salaam.

Other projects initiated were the construction of bypass roads in Arusha and Dodoma cities and the construction of the 8-lane, 19-kilometre Kimara-Kibaha motorway.

And yet other initiatives included the expansion of the Dar es Salaam, Tanga, and Mtwara ports; the construction of passenger and cargo vessels on Lakes Victoria, Tanganyika, and Nyassa; and the construction of the milestone bridges, including the Tanzanite Bridge in Dar es Salaam and the Kigongo-Busisi Bridge in Geita Region, respectively.

On the list are also grand projects in other sectors, such as the construction of the Julius Nyerere Hydroelectric Power Dam.





When President Magufuli died in March 2021, pessimism turned into real doubts on whether that was the end of the implementation of the huge projects, considering that their implementation had already started slowing down due to financial constraints.

The doubts, however, were ill-founded. Not only have the projects been sustained, but the pace of their implementation has, actually, increased.

President Samia has turned out to be quite a persistent executor of projects as she mixes soft power and aggressiveness in pushing steadily forward the implementation of the projects.

#### Ending inefficiency in port operations

It is in seeking optimal operational efficiency at the Dar es Salaam port that the president's soft power has come out vividly in the open.

In the past two years, President Samia has been building consensus on the appropriate strategy that could be deployed to boost the port's performance.

This seems to come from the realisation that structural bottlenecks have given her little room to manoeuvre in

the efforts to end traditional inefficiencies at the key maritime gateway in the eastern and southern African region.

Successive governments did everything in the allegorical 'How to Achieve Port Efficiency in Africa' guide book.

It increased efficiency, with ship turnaround time coming down to 4.8 days and container dwell time reaching 9.3 days by 2013.

But the optimal performance they were looking for never materialised. It also did not produce the results they were after in terms of revenue accrued from the port.

Vessels continued queuing up in the high seas, and occasional reductions in operational efficiency caused massive truck jams on the port access roads.

When it was deemed that port operations were hindered by a lack of digitization, the right investments were made to digitise port operations. The government installed the electronic customs system known as Automated System for Customs Data (ASYCUDA++) in 2005.

In January 2014, the customs digital system was updated, and the Tanzania Customs Integrated System (Tancis) was adopted for optimum efficiency. Furthermore, in July 2015, TPA introduced the Integrated Electronic Payment System (IePS). The system was intended to streamline operations at Dar es Salaam Port and to allow for 24/7 services. IePS was later connected to the Government Electronic Payment Gateway (GePG), enabling TPA customers to access their invoices and make payments through multiple payment channels.

In August 2015, the Bank of Tanzania and the Tanzania Revenue Authority introduced a system that enabled payments to be made through the banking system 24/7, including on weekends and public holidays.

When operational hitches continued, it was discovered that the operational systems of TPA and TRA could 'read into each other.' A suggestion was made to integrate the digital systems of both agencies. The Tanzania Electronic Single Window System (TeSWS) was eventually adopted, in 2020. TeSWS connected the port, clearing agents, and various government departments that



provide services to port clients. (TeSWS) was supposed to do away with paper work by enabling port users to lodge standardised information documents with a single entry point, with no need to deal with multiple government agencies and regulatory bodies separately. The eSWS was expected to further cut costs and reduce the time it takes to physically process documents at the Dar es Salaam port.

Specifically, TeSWS was supposed to read into TRA's Tancis to make clearing goods at the Dar es Salaam airport a desktop experience. As the government invested billions of shillings in the digital upgrade of port operations, it was then discovered that for these systems and the 24/7 concept to produce results, it was necessary to bring the port community together under one roof.

A decision was then taken to construct a 36-story building to make the One Stop Centre (OSC) concept a reality. The Sh149.5 billion centre, which was inaugurated in June 2018, is designed to bring all the government agencies and entities involved in cargo clearance under one roof to speed up the movement of documents, which spares customers the inconvenience of travelling long distances to process documents.

Efforts to digitise and automate operations at the Dar es Salaam port notwithstanding, it was then realised that the physical capacity of the port was lacking. Then the \$345 million Dar es Salaam Maritime Gateway Project (DMGP) was mooted.

It involved reconstruction of berths 1–7 and their deepening to 14.5 metres from the previous 8 metres so the port can comfortably host large vessels. Berths 8–11 would also be upgraded and deepened. DMGP also involves deepening to 15.5 metres and widening of the entrance channel and turning basin to the end of Berth 11.

In addition, the project will improve the rail platform and linkages within the port.

Through the DMGP, Tanzania also got the first dedicated terminal for offloading vehicles. Known as roll-on, roll-off (RoRo), the facility built at the Gerezani Creek has enabled the port to start hosting Post-Panamax vessels.

Offloaded motor vehicles are now driven off the ship and straight onto the adjacent spacious berth, which has a handling capacity of 3,000 vehicles at a time, as opposed to being driven over a kilometre from the vessel to a parking space. But also, when it was discovered that the access roads were poor, causing long queues of trucks, TradeMark East Africa (TMEA)

jumped in to support the repaving and widening of the immediate access roads, the installation of new gates, and improved traffic flow within the port.

Still, the inefficiency continued, and it came to light that automation at the port was lacking.

The government then invested billions of shillings to purchase automated port offloading and loading equipment. Soon after she came to power, President Samia approved the use of Sh500 billion to purchase automated equipment for offloading and loading equipment.





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Now the Dar es Salaam port has unmanned cranes that enable offloading and loading cargo regardless of weather conditions.

In fact, even the SGR project was undertaken with an eye on increasing efficiency at the Dar es Salaam port. The idea has always been that cargo offloaded from ships should not lie around at the port but should be immediately transferred directly to dry ports, cargo warehouses, and transit destinations. This would not only ensure operational sustainability but also open up the port space for a healthier working environment. The Tanzania Zambia Railways Authority and the Tanzania Railways Corporation infrastructure were connected to the port, but they have so far failed to decongest the port. The hope is that SGR, with its superior capacity, would succeed where Tazara and TRC failed.

In connection with this, a strategy had been devised in 2008 to create container storage capacity within 10 kilometres of the Dar es Salaam port. Private and public institutions were allowed to establish Inland Container Depots (ICDs). These somehow helped decongest the port, but they led to higher operational costs and more delays in clearing cargo. Politics kicked in, and since 2016, ICDs have not been optimally used, with the government urging ICD owners to move them more than 30 kilometres away from the port.

In addition, the project will improve the rail platform and linkages within the port.

In connection with the SGR, the government is creating the massive Kwala Dry Port. Kwala is connected to SGR railway infrastructure and would serve as Tanzania's dry port for transit goods.

### Samia's potion

President Samia is determined that the Dar es Salaam port should reach its optimum efficiency and provide value for money. As she received the controller and auditor general's (CAG) audited reports for the financial year 2021/22 on March 29, 2023, President Samia decried the fact that the TPA and TRA digital operational systems could still not read into each other. She was adamant that the failure of the integration of the systems was sabotaged by people who benefit financially whenever operations return to manual processes.

The answer to all these issues, she revealed, was to hand over the port to private operators.

It was not the first time she had expressed the desire to give private port operators a larger playing field at

the port.

In the past two years, she has been steadily building the case for privatising the entire port operations, using persuasion and carefully and politely explaining her strategy to her assistants and the public. She has been arguing that it is time the government, which has so far failed to operate the Dar es Salaam port, left the matter to those who can—the private sector. According to President Samia, all the sabotage, all the laissez-faire attitude, and the general lack of a sense of urgency in making the port work would go away when private hands manned the port.

"No private operators will inject capital into the operations of the port and sit back while watching people sabotage their efforts. They will do everything possible to ensure they get value for money," she explains.

The idea to privatise the port is not new. There were unsuccessful attempts in the early 2000s, which were met with untold resistance across the Tanzanian bureaucracy and body politic. Eventually, the port was partially privatised when one of the container terminals was leased to Hutchison Port (TICTS).



But TICTS's contract was terminated in December 2022, after it expired, for what the government said was underperformance.

The government is looking for new private operators for the ex-TICTS terminal and the other container terminal, which has been operated by TPA.

Development partners, specifically the World Bank, have also been urging for the separation of TPA roles in port operations in Tanzania. They say the fact that the TPA is both the landlord and the operator of the ports is a recipe for disaster. It is necessary, they say, to let TPA remain the landlord and overseer of the operations while another government agency or private operator takes over operations at Tanzanian ports.

### The cash-cow that never was

The port of Dar es Salaam is Tanzania's cash cow that never was. Every administration since independence has invested massively in the facility with the hope that the increased efficiency would translate into more revenue to help finance the budget.

On March 29, President Samia expressed both hopes and regret over the fact that the Dar es Salaam port alone could finance half Tanzania's

budget. Here we talk about Sh20.7 trillion (\$9 billion) in 2022/23 fiscal year.

Analysts contend that the idea of the Dar es Salaam port as Tanzania's effective cash cow is not far-fetched. They add that high efficiency at the port would not only result in more revenue but could also translate into unprecedented gains in the general economy through the growth of the transport and logistics industry. The transport and logistics industry is the artery of any economy through which goods are delivered to and from various destinations. The cheaper and faster freight is transported and delivered, the more efficient the economy becomes. But for Tanzania's economy, transportation is more than just a conveyor belt. Transport and logistics can help diversify the Tanzanian economy in ways that were previously hard to imagine. For one, it can turn the country into Africa's foremost trade hub, with significant positive ripple effects on the banking, insurance, and manufacturing sectors.

### Focus on the whole logistics chain

That is why analysts say to unlock the potential of the Dar es Salaam port, President Samia would have to focus on the whole logistics chain. The seaport is just the entry and the exit, they argue.

If the middle links are rotten, nothing can be done to trigger the optimal performance of the port. And the middle links are really rotten indeed, not in terms of the physical infrastructure, which is comparatively superior, but in terms of the policies and strategies that make freight in Tanzania move too slowly. It starts with tax issues, traffic management along the routes, and a myriad other anti-business procedures and nuisance regulatory habits.

All these have made the transportation business climate unfavourable due to the high but unnecessary operational costs, which have in turn led to uncompetitive transport costs in the country.

Stakeholders wonder, for example, why, across the Mandela Expressway, the main port access road, or further afield in the transit routes, the tiny filling stations are filled up with trucks and tankers refuelling their fuel tanks for the long journey ahead. Most of them take half a day just to refuel due to long queues at the filling stations due to unfriendly facilities that are mainly designed to cater to smaller vehicles. The time wasted is money wasted. The reason transit trucks are forced to refuel at the filling stations is that authorities have banned fleet owners from creating refuelling storage tanks in their own yards





"to avert loss of taxes," which stakeholders say is not true because all fuel imported into the country through legal channels is subject to tax.

This small policy issue has significant negative effects on the economy and on the performance of the Dar es Salaam port. The issue is just a micro-cosm of the problems that Tanzanian transporters face.

### **There is hope at the end of the tunnel**

Despite strategic issues with the transportation business, there is light at the end of the tunnel if only the government lifts its head, musters courage, and steadily walks the talk. For one, transportation has proven to be the most resilient of all service sectors in the country. When the Covid-19 pandemic ravaged the Tanzanian economy, the transport and logistics industry did not bulge. The sector proved to be a veritable cash cow as it continued minting the much-coveted foreign exchange earnings. Statistics from the Bank of Tanzania show that as the tourism sector was affected by the cancellation of flights, with its earnings falling to \$714.5 million and \$1.31 billion in 2020 and 2021, respectively, up from \$2.5 billion in 2019, earnings in the transport sector maintained their trend, registering \$1.28 billion and \$1.56 billion in 2020 and 2021, respectively.

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Statistics from the Bank of Tanzania show that as the tourism sector was affected by the cancellation of flights, with its earnings falling to \$714.5 million and \$1.31 billion in 2020 and 2021, respectively, up from \$2.5 billion in 2019, earnings in the transport sector maintained their trend, registering \$1.28 billion and \$1.56 billion in 2020 and 2021, respectively. In 2019, transportation brought in \$1.29 billion, and in 2022, the sector earned the country \$1.85 billion. With its continuous and steady growth, it is no wonder that the transportation sector will breach the \$2 billion mark this year. But all this says is that with the right policies and strategies, the transport sector, the Dar es Salaam port included, can claim its rightful position as the cash cow of choice.





## TANZANIA'S AVIATION DILEMMA: TO OPEN THE SKIES OR NOT TO OPEN

The ambitious continental trade agreement known as the African Continental Free Trade Area (AfCTA), which was ratified by Tanzania on September 9, 2021, offers countless opportunities for countries to increase their trade volumes. When the founding presidents of African nations gathered on May 25, 1963, in Addis Ababa, Ethiopia, to establish the Organisation of African Unity (OAU), they had in mind the establishment and operationalization of a continental-wide free trade area.

Julius Nyerere, the first president of Tanzania, was one of the supporters of this noble endeavor because he understood that Africa needed to come together and compete in the global economy. The decision to take part in the re-launch of the East African Community in 1999 and the ratification of the AfCTA are examples of how successive Tanzanian administrations have attempted to uphold the ideal of African unity. But experts say that in order for the AfCTA to succeed, Africa must completely revamp its logistics and transportation systems.

According to the World Bank, trade between African nations accounts for 12% of all economic activity, compared to 40% in Asia and 60% in Europe. It's very low. It is partly caused by inadequate transport and logistics chains. For starters, overhauling the transport infrastructure is necessary. "Infrastructure is the most effective solution that will make AfCTA fly and open a world of opportunities in Africa," says Meshack Kipturgo, a Kenyan analyst. He adds that logistics is the one component that enhances the ease of doing business by allowing a seamless movement of goods and services as needed. Roads, railways, and shipping have historically performed this function better, as evidenced by experience from Europe. But the sheer expansiveness of the continent, as well as the poor state of the land-based

transport infrastructure, call for a special focus on air transport.

"AfCTA creates a new basis on which African air transport liberalisation can be based," says Dr. Joachim Vermooten, a South Africa-based aviation consultant.

There is endless potential for growth in the air cargo business in Africa, says an aviation stakeholder, Hardus Kuschke, due to the increase in demand. This could be boosted by the implementation of the AfCTA.

"Aviation traffic is predicted to more than double by 2037. The boom in the movement of cargo will accelerate development," he says.

But it is in the liberalisation of air transport that Tanzania faces a dilemma.



In 1999, African countries agreed to liberalise the aviation market through the Single African Air Transport Market (SAATM) initiative as part of the Yamoussoukro Declaration of 1988.

The aim of SAATM is to increase air connectivity and, therefore, boost intra-Africa trade and tourism.

Tanzania has so far refused to ratify SAATM.

The permanent secretary in the ministry of Transport and Infrastructure, Gabriel Migire, says the country will not join SAATM, even in the next five years.

"Liberalisation of African skies is a good idea, but we need to open it strategically," Migire was quoted by the local press as saying.

Migire said the government would facilitate an enabling business environment for domestic carriers before it starts liberalizing its skies.

But as Tanzania dithers, analysts say SAATM, which is based on Bi-lateral Air Service Agreements (BASAs) between countries as provided for by the Yamoussoukro Declaration is inadequate.

The arrangements between individual nations are a "piecemeal" approach that cannot help Africa exploit the full potential of AfCTA, says Dr Vermooten.

He says the objective should actually be to achieve a truly internal single African air transport market as opposed to SAATM, whose implementation is also inadequate.

While Tanzania is now eager to reap the benefits of AfCTA after initial hesitations, its lingering doubts on the liberalisation of its aviation market pose a real dilemma. The desire to protect domestic airlines goes against the benefits that opening up its skies could bring in terms of growth in trade and tourism. To avoid being labelled as the spoiler of the continental economic and integration process, Tanzania must rethink its hesitation about opening up its skies.

This, of course, calls for the speedy implementation of strategies that reposition local airlines to be able to compete on a continental scale.

The Tanzanian government is trying to revive its flag carrier, Air Tanzania Company Limited (ATCL) as part of efforts to bolster tourism.

Through the Government Flight Agency, Tanzania has brought several, state of the art aircrafts and lease them to ATCL.

Despite that, ATCL, is still making losses as a result of delays and flight cancellations.

In the financial year 2021/2022 the airliner made a loss of Sh35.2 billion, the Controller and Auditor General's report says.



# OUTSIDERS NEEDED TO DIGITALIZE OCEAN FREIGHT INDUSTRY



**By Thomas Donslund**

It is a known fact that the shipping industry suffers from lack of digitalization. Even though one single container transport from Asia to Europe may involve many separate companies and stakeholders, it still requires loads of paper documents and manual spreadsheets. As odd as it may seem in 2023, this makes administration unnecessarily expensive as status of shipments has to be done manually. There is no doubt that a full digitalization of the supply chains will cause this expense to drop significantly. Those who succeed in setting the agenda for global digitalization will be in a very strong position in the future transportation market. It was with this strategy in mind that Maersk and IBM rose to the challenge and launched the ambitious blockchain project Tradelens in 2018.

At first, it looked promising: Many of the major container carriers supported the project, and in 2020, they began testing the platform. But in a surprising turn of events, Maersk recently announced that Tradelens would be shut down. We can only speculate on when and why the competitors decided not to share their data after all. This leads to a thought-provoking conclusion: Even as the benefits of global digitalization are completely obvious, one of the largest shipping companies in the world still failed to create the necessary momentum.





Apparently, the industry cannot digitalize itself

The shutdown of Tradelens suggests that digitalization must come from outside. The major shipping companies are in too direct competition with each other to truly commit to sharing data. In the case of Tradelens, this reluctance was reinforced by the fact that the platform had a commercial focus – Maersk wanted to make money from it. Therefore, the other shipping companies naturally focused on what they would get in return for strengthening Maersk by sharing their data – and it was clearly not enough.

We've seen this pattern before. The large, established players are too ingrained in their industry; they are heavily invested in many different assets, and they were not born digital. Thus, it was neither Hilton nor Marriott that revolutionized their industry with hotels.com or Airbnb. It was smaller, agile startups with the right ideas and neutral market positions that made them more obvious gathering points. They could offer new, strategic business opportunities that didn't put money in the pockets of competitors.

### So, now what?

Should we just accept that global digitalization of the shipping industry is delayed indefinitely? No – not at all. The idea of building a global, digital platform for managing maritime logistics is clearly the right way forward. But who is positioned to give the industry's players

enough advantages to make them share their data? Software companies such as Flexport, Forto and Freightos are good candidates.

Also, Amazon has just announced its AWS Supply Chain Visibility platform. Another possibility is that the large TMS platforms advance into the field that Tradelens has now left. In their case, precise supply chain information can be exchanged via open APIs, and the data already exist.

The winning formula requires freedom to experiment. The big question is: Who will be the first to tie all the links together?

Nobody knows for sure. The termination of Tradelens suggests that the decisive breakthrough will not start in the shipping industry's own ranks. My guess is that the winners will be found among new software companies with a higher degree of freedom to search for the digital disruption that will finally rid the industry of paper piles and manual spreadsheets all over the world.

Thomas Donslund is CTO of port intelligence data firm GateHouse Maritime. The article first appeared at [maritime-executive.com](http://maritime-executive.com) digital disruption that will finally rid the industry of paper piles and manual spreadsheets all over the world.

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TARURA KAZI  
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## BUDGET INCREASES THREEFOLD IN TWO YEARS OF PRESIDENT **SAMIA SULUHU HASSAN** LEADERSHIP

President Dr Samia Suluhu Hassan has overseen a threefold increase in the district road construction budget as part of the implementation of the policy to open up agricultural zones, says the chief executive of the Tanzania Rural and Urban Road Agency (TARURA), Engineer Victor H. Seff.

The improvement in the rural road construction budget is part of the commitment that Dr. Samia made during her inaugural speech in Parliament on April 22, 2021, in Dodoma as she pledged to improve the infrastructure, including roads, in order to encourage growth in productive sectors. "President Dr. Samia has fulfilled her commitment by increasing funding for the construction, repair, and maintenance of rural roads," Engineer Seff notes.

Engineer Seff says during the two years of Dr. Samia's leadership,

TARURA has done a fantastic job in both rural and urban areas by building roads to make it possible for people to travel to previously inaccessible locations.

"In fact, compared to the time before TARURA was established, the work done over the past two years has been excellent, and even the feedback we receive from citizens and road stakeholders supports this," says Engineer Seff.

TARURA is responsible for managing the construction, repair, and maintenance of the district's road network, which has a total length of 144,429.77 kilometres, as officially announced in Government Gazette No. 463 of June 25, 2021. Within two years of Dr. Samia's leadership, according to Engineer Seff, TARURA's budget has increased from an average of Sh275 billion four years ago to reach Sh900



billion for the year 2021/22 and Sh800 billion for the year 2022/23.

"Actually, the budget was very small, but after the sixth phase government came into power, we explained our difficulty with budgetary constraints, and it was taken care of," Engineer Seff says.

The increase in the budget has made possible the implementation of many strategic projects costing Sh142.5 billion, including the construction of the Berega Bridge located in Kilosa District in Morogoro region.

"The construction of the Berega Bridge with a length of 140 metres required Sh7 billion, which used to be the entire budget of Morogoro Region for sections of roads that are under TARURA. This was only possible after the honourable President Dr. Samia increased the budget of TARURA. Now the project is close to completion while Morogoro's budget for roads in roads that are under TARURA has increased from Sh7 billion to Sh26 billion annually," says Engineer Seff.

Engineer Seff mentions other strategic projects as the construction of 58.1 km of tarmac roads in the government city of Mtumba in Dodoma and the construction of 12.5 km of Visiga-Zegereni road in the town of Kibaha, Coast Region. In addition, the 60-metre Msadya Bridge in Mpimbwe District, Katavi Region, and the 40.6-metre Mkomazi Bridge in Korogwe District, Tanga Region, are being built.

The increase of the TARURA budget has also led to a rise in the road construction budget of the Dar es Salaam Region where, according to Engineer Geoffrey Mkinga, from Sh25.431 billion in 2020/21 to Sh58.132 billion in 2022/23. The bigger budget has been spent to expand the road network by 105.54 kilometres from 469.47 km to 575.01 kilometres, which is an increase of 18.35 percent.

Gravel roads have also increased by 16.95 percent, clay roads have decreased by 13.05 percent,



and bridges and culverts have increased by 14 percent.

"This is a big rise in the budget in this big city and has increased our capacity to build, repair, and maintain roads by 354.42 kilometres from the 689.96 kilometres previous to 1,044 kilometres now. Dar es Salaam has a total of 5,049 kilometres of roads," said Engineer Mkinga. In Shinyanga Region, the budget increased from Sh7.145 billion to Sh15.494 billion, which strengthened the road network and brought it to 41.16 percent of roads in good condition and 26.30 percent of roads in moderate condition, and 32.54 percent.

Additionally, according to Engineer Seff, within two years of the leadership of President Dr. Samia, TARURA continued to carry out the second Strategic Plan, which was formally launched when the sixth phase government came into power and aims to have 85% of the district's road network passable throughout the year by 2025/26.

"The budget increase has actually made it easier to carry out this five-year plan successfully in 2021/22. We are in the second year of its implementation, and we are witnessing great results, given that we have completed more than 38% of the plan's implementation

in just one year." He says that so far, out of the Sh1.3 trillion planned, Sh973 billion has been spent on the construction of 988 bridges, 19,786 km of gravel roads, and 765.46 km of tarmac roads.

The Second Strategic Plan is being implemented with four priorities, which are to protect the investment made on roads that are in good and moderate condition, removing obstacles, the use of technology, implementing strategic projects based on economic and social priorities, and reducing traffic congestion in cities and municipalities.

Engineer Seff also says that within two years, TARURA has built 110 bridges worth Sh5 billion through a programme to use raw materials found in the respective project areas with the aim of reducing construction costs, a step that has reduced costs by more than 40 percent. He says the bridges are built in the regions of Kigoma (72), Singida (13), Tabora (3), Kilimanjaro (6), Mbeya (2), Arusha (4), Morogoro (2), and Iringa (9). In terms of the use of technology in the construction and maintenance of roads with the aim of increasing efficiency, reducing the cost and time of implementation, and taking care of the environment,







Engineer Seff says the Agency has started testing various technologies, including ECO-ROADS, Ecozyme, and Geopolymer. "Currently, we have started with a total of 11 kilometres, which are being built using ECORoads technology, including one kilometre of Ilazo road in Dodoma region and 10 kilometres of Sawala road in Mafinga," he says. In addition, Engineer Seff says that under the leadership of President Dr. Samia, TARURA is implementing projects funded by development partners, including the project to improve infrastructure in 45 city and municipal and town councils (TACTIC), which is being implemented for 6 years and started in November 2022 at a cost of USD 410 million.

He says that among them, USD 278 million has been authorised to be used in the first phase of the project for 12 councils for which work tenders have been announced. "Also, the tenders for the design of the second phase projects are in the final stages of preparation," Engineer Seff says.

CHIEF Executive of Tanzania Rural  
and Urban Road Agency  
(TARURA), Engineer Victor H. Seff



## BRT: SUCCESS OF EA'S FIRST URBAN MASS TRANSPORTATION SYSTEM

Public transport executives and officials from cities in Africa and beyond troop to Dar es Salaam to learn. They do so not just because Dar es Salaam is the largest transport and logistical hub in eastern and southern Africa outside of the Republic of South Africa. They come in their hundreds to learn about how Tanzania has pulled off East Africa's successful, innovative, and pioneering mass transportation system.

But what is this system all about. What is its design?

There are various Bus Rapid Transit systems in the world with different components and varied modes of operation. What is the mode of operations of Tanzania's BRT system? Dr Edwin Mhede is the Chief Executive of the Dar es Salaam Rapid Transit Agency (DART). It is under Dr Mhede's leadership that BRT has progressed in leaps and bounds as it embarks in the construction of the next phases at a go, after years of trial and error in the first pilot phase.



### BRT Design

BRT means Bus Rapid Transit, moving people using big buses but very rapidly, not speedily. Rapid means moving people according to a schedule. Features of BRT are big, articulated buses with a capacity of 180 per bus if it is articulated, seating and standing. Dart's buses seat 40, while the rest have to stand. The big space for standing is because this is urban transportation. It means there is a stretch of 15 to 40 minutes to reach the final destination.







Another criteria is that the buses have to accommodate as many passengers as possible. Having more seats will require very long buses that are cumbersome for urban roads.

In all cities around the world, urban transportation buses and trains have more standing room than seating. In Tanzania, BRT buses have six seats reserved for people with disabilities or special needs. Normal seats are less than 35. It is tolerable for people to stand because there is ample space for standing. There is no bending of the backs as the buses have enough headroom. Some BRT buses are double-articulated and have a capacity for 250 passengers. Buses are one component of BRT.

Another component is the Automated Fare Collection System (AFCS). Payment for tickets is electronic and is done outside the station. Once the passenger gets in, there is no conductor there.

The third component of BRT is the ITS system, which facilitates monitoring the movement of buses from the control centre. Buses should follow the timetable, they should arrive punctually at the stations, and they should go according to the time schedule that is available to drivers on their onboard screens.

The driver must communicate with the control room continually for his or her bus to be punctual.

Another component is infrastructure. Tanzania's BRT buses have dedicated bus lanes that are not shared with other traffic. They have to have special stations located in the middle of the lanes.

There are many advantages to putting them in the middle.

Stations in the light BRT system may be on the sides of the lanes.

Walkways are another key characteristic of BRT infrastructure.

Walkways are a very important characteristic of BRT infrastructure, providing the facility for people to walk.

When the BRT was constructed, it was created with walkways on the sides of the routes and through special bridges at termini. In Dar es Salaam and other cities that use BRT in Africa and South America, public transport and walking account for over 85 percent of the city's movements. Private modes of transportation are used by only about 6 percent of the cities that use BRT.

## Mode of Operations

In BRT, there are different modes of operation. In our case, it is the PPP, which means the operation of buses is done by the private sector. The government is building the infrastructure for fare collection and transportation infrastructure. The modality is that the operator gives the services, and the fare is collected by the government.

After the operator finishes providing the services, he or she is paid per kilometre of service. This is the mode that we are going to use. It is a model that is called Net Cost Modal.

According to the agreement, the bus operator is paid per kilometre of service provided to the passenger.

That is the mode the BRT system in Tanzania is going to use, although currently we are using another interim mode in which the operator collects the money and pays DART access fees. This arrangement is for interim use only. The main aim was to cover the infrastructure by not letting it stay idle. It is not the fully BRT mode. Tanzania is going for the gross cost modal.

In other modes, in other countries, it is the operator who collects the money, then submits it and is paid per kilometre of service again.

## Phases

In Dar es Salaam, BRT is going to have six phases of BRT. BRT first phase that runs on Morogoro Road, North Kawawa Road, and Msimbazi Road is already completed. Construction of the infrastructure for the second phase that runs on Kilwa Road as the main line and

south Kawawa Road is nearing completion.

The construction of the third phase running through Nyerere Road has started.

Phase number four is the Ali Hassan Mwinyi road going to the Old Bagamoyo road, which runs to Boko Dawasa.

Phase number 5, which is the ring road Nelson Mandela Road from the Kijazi

Interchange at Ubungo to the Nyerere Bridge at Kigamboni. That is the main line. It has supplementary lines from Tabata Segerea up to Kigogo Roundabout, running on Tabata Road and Kigogo Road.

Phase six is the Mwai Kibaki road from Morocco to Kawe, then back again to join the new Bagamoyo road at Lugalo. There is also a phase extension that will be built during the implementation of phase six. This is from Morogoro, from Kimara Mwisho up to Kibamba, and there is also an extension of phase two that will be constructed during the implementation of phase six, from Mbagala Rangi Tatu up to Vikindu.

## Interconnections

All the BRT phases would be interconnected. Once a passenger in the BRT transport system, he or she could connect to wherever the BRT buses go without getting out of the BRT station. The BRT system is also interconnected with private transport systems, as there is parking space at main terminals and feeder stations. The whole system is integrated

## Ridership

The BRT buses now carry 200,000 passengers per day in Phase I. The number would double when more buses are deployed and more feeder lines open, to 500,000 passengers per day in Phase I.

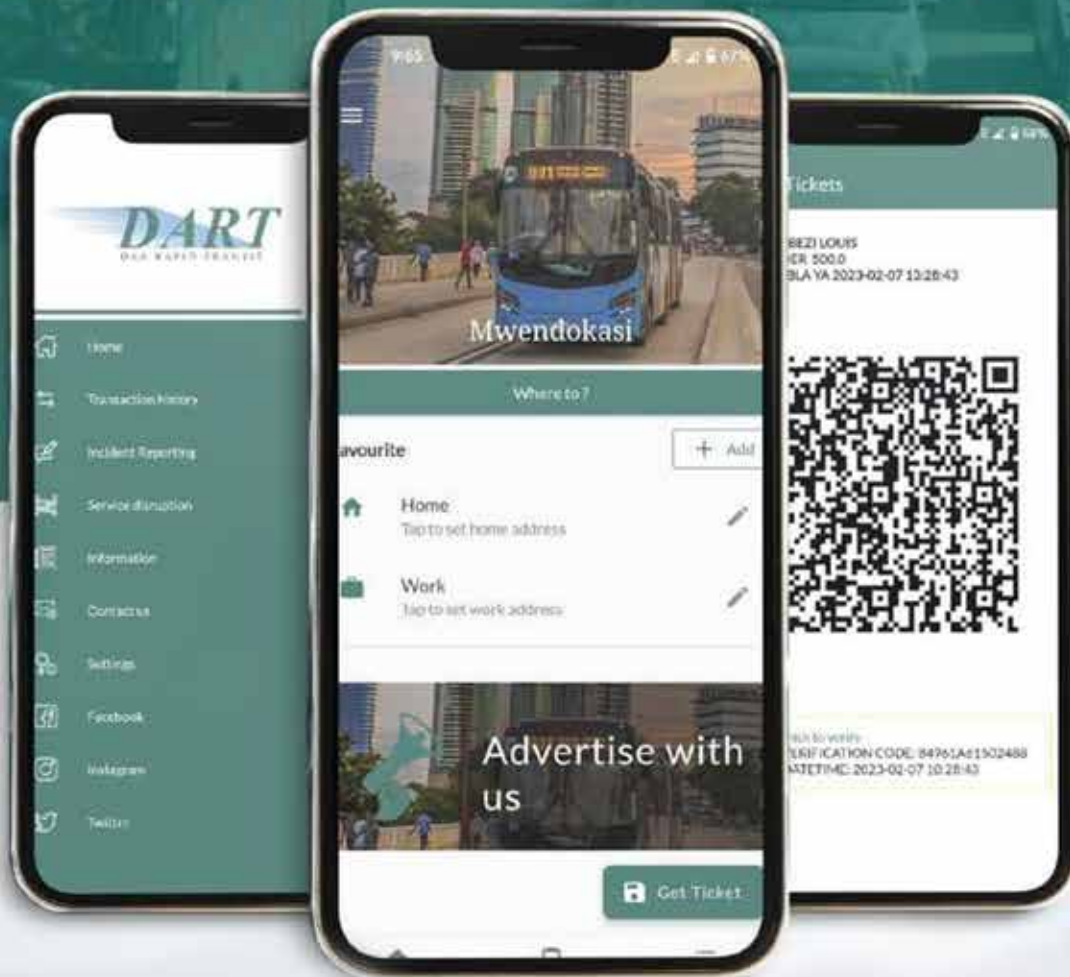
In Phase II, when it is completely and fully operational, it will have 750,000 passengers per day. That is when everything is full and operational.







# Dar City Navigator sasa ni Mwendokasi App



Pakua Sasa



Pakua Sasa





Dr Edwin Mhede  
Chief Executive of DART

### Technology system and the goal of zero emissions

BRT buses use Euro4 engine technology. It is a diesel engine, but emissions of carbon dioxide are kept to a minimum at less than 500 ppm (parts per minute). BRT has significantly reduced carbon dioxide emissions into the environment. These buses take up the space of many commuter buses (daladalas) and private cars, which have a lot of emissions, especially during traffic snarl-ups. BRT roadmap shows that it headed towards using electric buses, which emit zero emissions. Along the roadmap, BRT would use CNG fuel. BRT is expected to use CNG even in Phases I.

And CNG buses emit less pollution than diesel engines. CNG buses are the same as Euro6 diesel engines. To have a CNG bus, and Euro600 is the same. DART would not convert the existing buses, but it would bring in new buses that are already integrated with CNG.

### Payment system

The BRT is using digital payment systems for its ticket processing. Dart Principal ICT officer Abubakar Gamaha expounds further about the system; BRT started with the LGLix system, which is the ministry's system. It helped us a lot.

And then it moved to a fare collection system that was built by the government.

The current system is called the Automated Fare Collection System (AFCS). This is also a government system.

The aim of Dart is to phase out paper tickets and ensure that everything is digital through mobile phones and plastic cards.

The automation of business processes has helped us see so many things.

The collection of data is easier and helps the management make informed decisions.

Up until now, all the BRT tickets were electronic tickets. The only thing is that the medium of exchange is paper, but it could also be a mobile phone.

All BRT tickets are digital (electronic). And now there is the Mwendokasi App. It was formerly known as Dar City navigator. The App enables passengers to purchase BRT tickets directly from their own mobile phones.





## EAST AFRICAN COMMUNITY SEEKS RAILWAYS EXPERT TO UPDATE MASTER PLAN

The East African Community (EAC) is committed to bridging the gap in railway infrastructure and services to meet future demand, by updating the EAC Railway Master Plan, harmonizing railway laws, standards, and regulations, and actively engaging in continental railway initiatives. Railway transportation in East Africa is an integral component of a multimodal transport system that combines seaports and hinterland rail and road transportation systems, with additional support from inland marine transportation services on major East African lakes such as Victoria, Tanganyika, and Malawi/Nyasa. Each hinterland transport mode possesses unique characteristics. Seaports, serving as the entry points for most international trade, and maritime shipping services provide the most cost-effective unit charges per ton or ton-kilometre compared to hinterland transportation. Among hinterland transport systems, inland marine services and and railway transportation generally have lower unit transport costs than road transportation. However, road

transport is typically faster, more flexible, and offers better reliability, predictability, and regional access.

An efficient, competitive transportation service for regional trade requires optimization of the use of various hinterland transport modes based on their respective attributes. Consequently, traffic distribution between road and rail must optimize the total transportation cost of trade.





Article 91 of the EAC Treaty on Cooperation in Railways Transport mandates Partner States to adopt common policies for railways and railway transport development, safety regulations, and measures for harmonization and rationalization of railway transport, among other provisions.

The EAC Summit in 2004 directed the creation of an East African Railways Development Strategy or Master Plan, which was completed in January 2009 and adopted by EAC Policy Organs in April 2009.

The Master Plan proposes the revival of the deteriorated trunk network and branch lines, identifying 21 existing and proposed new links. Several links connect economically viable investment entities and isolated natural resources. Additionally, a study concluded in 2016, proposed strategies for regional sector development, including harmonization of technical standards, regional railway safety regulations, and institutional frameworks

adhering to international best practices.

Due to more Partner States joining the Community and ongoing rehabilitation and development of the Meter Gauge Railway and Standard Gauge Railway, the EAC master plan requires review and update.

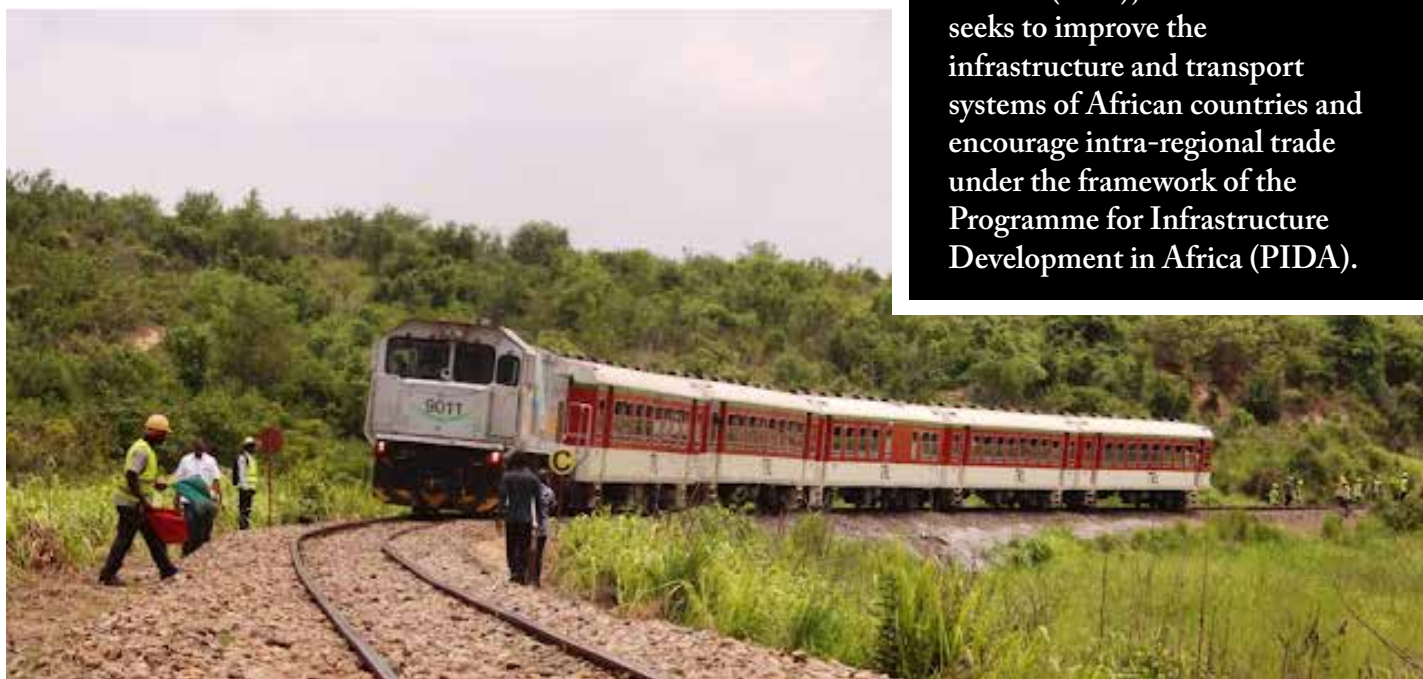
Railway expert required The EAC has received a grant from the African Development Bank towards the cost of the EAC Capacity Building and intends to apply part of the proceeds of this grant to eligible payments under the contract to recruit a qualified professional as an individual consultant, for the provision of Technical Assistance to the Directorate of Infrastructure.

The objectives of this consultancy are to assist the EAC Secretariat deliver on its mandate as defined in the Treaty and specifically to: Update the EAC Railway Master Plan of 2010 and review the railways current capacity and establish the gap between this capacity and the requisite

railways infrastructure and services that will be required to meet future demand. Review and update the recommendations contained in the EAC Railways Sector Enhancement Project and guide on their implementation; Finalize the harmonization of railway laws, standards and regulations and assist Partner States in domesticating them; and Ensure that the EAC is fully engaged in continental railway initiatives in particular the African High-Speed Railway project and the development of African Railways Standards. The EAC, therefore, wishes to engage a qualified railway expert to undertake the consultancy service.

### **Connecting EAC through green infrastructure**

Meanwhile, the Green Infrastructure Corridors for Intra-African Trade Programme, jointly implemented by the African Union Development Agency (AU-DA-NEPAD), the Central Corridor Transit Transport Facilitation Agency (CCTTFA) and Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), is an initiative that seeks to improve the infrastructure and transport systems of African countries and encourage intra-regional trade under the framework of the Programme for Infrastructure Development in Africa (PIDA).







The selected projects under the programme have the potential to drive economic growth, create jobs, and reduce carbon emissions.

The Central Corridor in Eastern Africa was selected as a pilot corridor to develop, test, and demonstrate “green infrastructure development for intra-African trade.” The corridor is a vital trade route that connects important economic centres in Eastern and Central Africa. The Corridor connects Burundi, DR Congo, Rwanda, Tanzania, and Uganda to other economic corridors and seaports across the continent. From March 6 to 10, 2023, the AUDA-NEPAD, CCTTFA and GIZ conducted a mission and field visits in Rwanda to evaluate the feasibility of prioritized projects proposed by the Government of the Republic of Rwanda within the Central Corridor. The projects involved include; the Construction of a Sanitary Landfill in Kigali City, Lake A market analysis and feasibility study on the use of Compressed Natural Gas (CNG) for vessels across Lake Kivu and other inland water transportation networks, Feasibility study of Akagera River navigability, Construction of Gasabo district Centralized Sewerage System in Rwanda, Isaka – Kigali Standard Gauge Railway (SGR) and Muhanga-Mukamira Road Project.

The construction of the Kigali Sanitary Landfill, the project will significantly improve waste management systems in the capital city of Rwanda. The biogas component of the landfill will convert organic waste into a renewable energy source, reducing greenhouse gas emissions and providing additional energy for the country.

Another important project is the Lake Kivu Transport Programme which seeks to use CNG as an alternative energy source to power ships on Lake Kivu. This project will reduce air pollution caused by the current use of diesel fuel, benefiting both the environment and the health of the local communities.

The Inland Waterways Special Focus Project will improve navigability on the Akagera River, which runs through Rwanda, Tanzania, and Uganda. This will promote trade, reduce transport costs and will create economic opportunities for the countries involved.

The Central Corridor Roads Climate Proofing Pilot Project aims to make the Muhanga-Mukamira road climate-resilient. By using innovative engineering techniques, the project will reduce the risk of road damage caused by extreme weather events such as flooding and landslides. This will improve road safety, reduce the cost of road maintenance, and ensure reliable transport links, benefiting both businesses and communities in the region.

The Central Corridor Urban Sanitation Project will improve the sewerage system in the Gasabo district of Rwanda. The project will improve environmental conditions in the area, including the reduction of waterborne diseases thereby improving public health and sanitation, preventing water pollution of all the downstream rivers and mitigating heavy damages caused by flooding events.

Finally, the Central Corridor SGR Project aims to extend the railway system between Isaka in Tanzania and Kigali in Rwanda, as well as between Kigali and Kindu in the Democratic Republic of Congo.

The project will unlock the full potential of intra-regional trade, reduce road congestion and wear and tear, and also reduce the costs of transport, boosting the region's economy.

The mission concluded with the agreement for joint work plans to be developed for the projects through which the projects will be supported by the Green Infrastructure Corridors for Intra-African Trade Programme.



## BATTERY TRAINS ARE THE FUTURE OF SUSTAINABLE TRANSPORT

As Tanzania races to achieve the milestone of launching the first ever electric trains in East Africa the world is moving on to electric battery-powered trains. Battery electric power is already commonplace in cars and trucks and is being tested in planes, helicopters, and container ships. Now, battery power is coming to trains, in place of the diesel-fueled generators that have powered locomotives for more than a century. Battery trains are known as Battery Electric Multiple Unit (BEMU), some of the already tested BEMU locomotives can travel up to 80 km at a maximum speed of 120 km/h, providing comfortable coverage of regional non-electrified lines. They are touted for having less environmental impact.

The BEMU solution has been talked about among train manufacturers and operators for years, but with the growing demand for environmentally friendly solutions, the topic is increasingly coming to the fore. As a result, the first battery-powered trains are starting to appear on the rails, with the aim of providing service on non-electrified lines while reducing emissions and improving travel comfort.

**Advantages of battery trains** A great advantage of the



deployment of battery trains is the reduction in the number of changes that passengers have to make when travelling on lines that are partly electrified and partly non-electrified.

Battery trains can run the whole line without problems, which significantly increases passenger comfort, while at the same time the operator can reduce the total number of trains in service.

Battery-powered trains are the cleanest solution to replace traditional diesel vehicles. At the same time, it is a way to gradually improve air quality and achieve the climate targets set by society.

An example is the European Green Deal, which aims to reduce transport emissions by 90 percent by 2050.





started being used for smaller tasks in the US such as sorting train cars in rail yards in California and Nebraska.

In 2021 Wabtec tested its FLX-drive locomotives on 18 trips between Barstow and Stockton, California, under a \$22 million grant from the California Air Resources Board. The battery electric locomotive sat between two traditional diesel locomotives, pulling as much as 430,000 pounds. Wabtec CTO Eric Gebhardt says the combination saved an average of 11 percent on fuel and emissions.

Wabtec says its next-generation battery locomotive will nearly triple its energy storage capacity to 7 megawatt-hours, nearly 100 times the capacity of a Tesla Model 3. That could cut emissions by up to 30 percent, Gebhardt says.

Switching to battery electric power will reduce greenhouse gas emissions and improve local air quality.

Diesel locomotives spew particulate matter and other toxic pollutants, accounting for an estimated 1,000 premature

deaths and \$6.5 billion in health costs a year in the US. A spokesperson for the California Air Resources Board says replacing diesel locomotives will “undoubtedly have a positive health impact to nearby communities” and will represent “a step forward in the long-standing environmental justice concerns of communities living near rail yards in our state.”

In 2021, researchers from Lawrence Berkeley National Laboratory and UCLA’s Institute of the Environment and Sustainability predicted that retrofitting traditional diesel locomotives with battery power could save railroads \$94 billion in fuel costs over 20 years, after buying the batteries, and would keep tons of pollutants out of the air.

Trains in the US are especially well-suited for retrofitting with battery power because most locomotives use a diesel generator but have electric motors.

“This is the beauty. Because they already are electric, if someone decides to do it they can do it in a month,” says coauthor Amol Phadke,

who studies heavy-duty electric vehicles and grid-scale battery storage.

“All you’re doing is adding a railcar which has a huge amount of batteries on it.”

Mixing battery and diesel engines Taking battery, diesel, and electricity prices into account, the researchers estimate that adding a car with a 14-MWh battery to a train with four diesel locomotives could cut fuel costs in half. Getting battery electric locomotives into service quickly is a big deal, since traditional diesel locomotives can operate for more than 20 years, Phadke says.

A startup that came out of stealth last month has another idea:

Parallel Systems wants to move freight using self-driving, battery-powered, autonomous rail vehicles. The trains would assemble automatically and travel with no conductor, no locomotive, and no train whistle. Should Parallel Systems succeed, fully autonomous self-driving could come to rails before roads.

“This is the beauty. Because they already are electric, if someone decides to do it they can do it in a month,” says Phadke, staff scientist, Lawrence Berkeley National Laboratory.

Parallel Systems was founded in January 2020 by a group of ex-SpaceX executives and is largely still a concept.

Parallel Systems CEO Matt Soule envisions platoons of rail vehicles that resemble giant Roombas carrying 10 to 50 shipping containers, but that’s based on modeling and simulations, since the company has so far built only two rail vehicles. A second-generation rail vehicle is due later this year.

Soule says Parallel is trying to develop software that will work with existing railroads and incorporate necessary safety features. “We’re not replacing trains,” he says. “This is about shifting more truck miles to rail.”

Each of these battery electric approaches bring the promise of a cleaner environment, lower fuel costs for railways, and fewer premature deaths from air pollution, but they lack the same thing that has hindered adoption of electric cars: charging stations.

Wabtec and BNSF Railway built the first battery electric locomotive charging station in a train yard in Stockton as part of the test run last year. That used a 400-kilowatt plug, but later models of Wabtec’s FLX-drive will charge using pantograph technology, reaching down with an arm to touch a contact at the top of the locomotive.

Union Pacific says its battery electric locomotives initially will operate only in rail yards to test performance in extreme cold and heat. The railroad will develop charging stations in partnership with the American Association of Railways, which is developing standards with representatives of railroads and locomotive makers. A spokesperson for the group says the standards won’t favor a specific method of charging.

A Wabtec spokesperson says the company can provide plug-in charging, but charging from the top of locomotives will be easier. Parallel Systems is developing a charging pad that connects beneath rail vehicles and sits between train tracks.

The Lawrence Berkeley Lab–UCLA study says building charging stations will account for a substantial portion of the initial costs.

Freight trains typically travel 1,000 miles or more, but stops for crew changes every

150 miles or so provide an opportunity to charge batteries. One advantage in building charging stations for locomotives:

They don’t have to be in cities, which could help lower costs. “These charging facilities can be anywhere,” Phadke says.

Another potential advantage: the potential to capture energy as heavy, miles-long freight trains rumble down a hill. The Wabtec trial last year traveled 350 miles through the heart of California without recharging, because regenerative braking recharged batteries roughly 20 percent when going downhill.

The system is similar to the braking systems that charge the batteries of hybrid cars, Gebhardt says, noting that trains are pulling far more weight behind them. He thinks regenerative braking may reduce the number of charging stations needed for battery electric locomotives.

The US Department of Energy’s Advanced Research Projects Agency–Energy last year launched a locomotives initiative, which is collecting models for predicting costs, performance, and greenhouse gas emissions for alternative energy locomotives operated by major railroads. Bob Ledoux, the program director, says software can help reduce fuel use and emissions from traditional locomotives. Over time, he says, coordinating more activity among ships, trucks, and trains will be critical to decarbonizing the entire supply chain. (Agencies)





# IATA LAUNCHES NEW DRIVE TO STRENGTHEN AVIATION IN AFRICA

The air transport authority has launched an initiative to promote the development and recovery of the African aviation industry.

The International Air Transport Association (IATA) is launching its "Focus Africa" initiative to expand the aviation industry's contribution to socio-economic development on the continent. Focus Africa will bring together public and private stakeholders to improve connectivity, safety, and reliability for African passengers. Aviation is critical in connecting people and services and can significantly boost a region's economic activity. Africa is a vast territory, home to about 1.4 billion people, nearly 20% of the world's population. However, its contribution to world air travel is very minimal, contributing about 2.1% of global passengers. IATA plans to leverage the continent's vastness to enhance connectivity,

job opportunities, and growth offered by aviation.

## Challenges faced in Africa

Africa's aviation sector is heavily underserved, lagging in development and economic activity. Slow adoption of global standards, high operating costs, lack of connectivity, regulatory restrictions, and shortage of skills all contribute to the underdevelopment of aviation around the continent. All these factors affect the passenger experience and the viability and sustainability of African airlines.

The continent's carriers suffered cumulative losses of \$3.5 billion between 2020 and 2022, and IATA predicts further losses of up to \$213 million this year. IATA Regional Vice President for Africa and the Middle East Kamil Al Awadhi said in a media briefing:

"Many airports in Africa have systems and processes which do not offer a good passenger experience.

Another shortcoming that we've noticed is Africa as a continent also has the slowest adoption of passenger Data API programs, with only a handful of governments that have implemented passenger data programs. When implemented using industry guidance and best practices, they can strengthen first of all borders, of course, but also support airports and governments to move towards advanced processing capabilities."

Utilizing opportunities in Africa Sustainable intra-Africa and global connectivity are critical for bringing people together and creating investment opportunities. These align with the United Nations' Sustainable Development Goals (UN SDGs) for Africa of lifting 50 million people out of poverty by 2030.



Africa has a solid foundation to promote aviation's contribution towards its development. Trade and tourism rely on aviation to create jobs, reduce poverty, and boost economic activity. Pre-COVID aviation supported 7.7 million jobs and \$63 billion in economic activity around the continent. IATA projects demand to triple over the next twenty years. Many of the challenges faced in Africa are uniquely African and require African solutions. Through strategic planning and outstanding leadership, many of these problems can be solved in a heartbeat. RwandAir CEO Yvonne Manzi Makolo is the new Chair of the IATA Board of Governors (2023-2024), making her the first African and female to hold this position.

Looking at RwandAir's success, her leadership will promote the association's focus on Africa and will be an opportunity to solve many challenges faced in the industry. Yvonne Makolo said in the press briefing attended by Simple Flying;

"Africa stands out as the region with the greatest potential and opportunity for aviation. The Focus Africa initiative renews IATA's commitment to supporting aviation on the continent. As the incoming Chair of the IATA Board of Governors, and the first from Africa since 1993, I look forward to ensuring that this initiative gets off to a great start and delivers benefits that are measurable."

### Six critical areas

Focus Africa is not just an initiative invented by IATA and being prescribed for Africa, it is being defined through extensive consultation and by the key policies that characterize the industry. Innovation is critical for African aviation and by overcoming challenges, airlines will be able to accelerate their growth. Through partnerships, stakeholders will effectively pool their resources, research, expertise, time and funds to support the common goals of the six critical areas. The partners will be announced at the official Focus Africa launch in Addis Ababa on 20-21 June.

Mr. Al Awadhi concluded; "The tasks for Focus Africa are not new. Work is already underway as part of the work of IATA and other stakeholders in Africa. But after the financial trauma that the pandemic brought to African aviation, we are at a unique time of rebuilding.

By launching Focus Africa now, we can ensure that the recovery from COVID-19 moves aviation to an even better place than we were in 2019.

The challenges being faced in the industry can be fixed and put it on a path of fast recovery. Traffic in Africa is expected to grow rapidly over the next few years. IATA Director General Willie Walsh said; "The limiting factors on Africa's aviation sector are fixable. The potential for growth is clear. And the economic boost that a more successful African aviation sector will deliver has been witnessed in many economies already. With Focus Africa, stakeholders are uniting to deliver on six critical focus areas that will make a positive difference.

We'll measure success and will need to hold each other accountable for the results."

The regulatory authority will focus on these six critical areas:

Improvement of operational safety through critical analysis and collaborations to reduce accidents in the aviation sector.

The development of effective, efficient and transparent aviation infrastructure to enhance the customer experience.

The promotion of the Single African Air Transport Market (SAATM) to enhance intra-Africa air travel. Implementation of secure and transparent monetary services. Assisting Africa in achieving the industry's goals of net-zero CO2 emissions by 2050.

Promotion of aviation careers and assuring that skills remain and are used in Africa.

The opportunity for development is present, and it starts with addressing these ideas. According to IATA, the aviation market is recovering faster than the industry at large. Instead of focussing on the industry's underdevelopment, the board suggests that it is time to act and accelerate economic growth. The right time for action Africa continues on the path to recovery from the effects of the COVID-19 pandemic. Air cargo is 31.4% over 2019 levels and air travel is 93% of pre-pandemic levels. A good example is the Tanzanian aviation sector which edged very close to pre-pandemic levels in 2022. Full recovery is expected in 2024, so this is the right time for action. A key strategy to further develop African aviation is to have partnerships. ([simpleflying.com](http://simpleflying.com))



## WHY ARE DIGITAL FREIGHT FORWARDERS FAILING?

By Tomas Ananjevas

Digital freight forwarders and their latest failures are one of the most read topics in the logistics industry. Well, they aren't failing in the purse sense, but we see more and more signs that something is wrong there. They started loudly and did some incredible things. Still, more and more characters are pointing out that their technology isn't growing fast enough, those organizations have overspent received investments, their growth is too slow, and the profitability is low. Moreover, the most recent stories Of the Slync CEO's overspending, Flexports investments into crypto, layoffs, investments into traditional logistics businesses, and other things which may come up in upcoming years point us to the conclusion that there may be problems with their business model. Those who follow me know that I'm a big fan of digital solutions and still believe in the digital logistics model and that this model will work one day. But I have doubts that today's existing companies will be able to achieve this. Most likely, we will see new players that will gain traction, or other market players will acquire existing players, and then we may see a renaissance of so-called digital freight forwarders. In this week's edition, I will share my thoughts on why digital freight forwarders are failing and what will happen with them soon.

The main characteristics why I believe they are struggling

### They were too loud

Digital freight forwarders were among the best customers of any Logistics industry journal and event. They paid big coins for the advertisement. Loud statements such as We will disrupt the logistics business; the logistics business is run with paper and pencil. We will change this, etc. were introduced. Such statements have gained a lot of negative



traction from traditional freight forwarding companies, and of course, they got attention from shippers, which allowed them to grow faster. But at the end of the day, shippers (and other partners like transportation companies, carriers, etc.) are starting to understand that digital freight forwarders do not provide any real difference and that all proactive traditional logistics companies have the same or even higher level of digitization. Moreover, they have real-life logistics experience, which helps when unexpected things happen.

### Too little improvement

Companies that disrupted any other industry have introduced markets with entirely different ways of doing things. Uber introduced much cheaper public transportation and increased the quality of taxi services. Netflix brought the movie theatre home.

Apple changed our relationships with phones. And what did digital freight forwarders do? They have reintroduced us with shipment visibility, better communication between partners, and lesser paper-work (not in all cases). And yes, they offered self-service portals that no one wants to use. Have they offered some life-changing improvements for shippers? No. Are those improvements super crucial for the industry? No. Are they saving the environment? No more than other players. When I'm thinking about the disruption of the logistics industry, I'm thinking about AI-powered decision-making, tokenization of shipments and logistics assets, and fully automated planning functions. Of course, visibility, communications, or other minor changes, are nice to have functions, but nothing more. It's precisely why many of them struggle to grow their revenues and profitability because it's hard to convince shippers and other market players to switch to providers with minor functionality improvements. So you need to come up with something massive to get the customers. And if digital freight forwarders had made more significant improvements, the growth trajectory would have been much steeper. I know that some of DFF started marketing sustainability as a differentiator. But here again, I do not see any proof that DFF are more sustainable than traditional freight forwarders.

### **The solutions they developed become too expensive**

The billions poured into the industry seem to be spent not wisely, and the developed solutions become expensive. There is a big chance that we will see more irrational spending stories and maybe even learn about financial shenanigans in the coming years. Moreover, newcomers (startups) make (visibility, communication, automation, etc.) cheaper and more profound than the existing players. In other words, those existing companies haven't created a competitive advantage, as any other player can replicate its solution with lesser investments. And this will become a real pain in the upcoming years.

### **They have chosen the wrong business model**

Digital freight forwarders have chosen to wage war on existing players. And this, I believe, was their fundamental strategic mistake.

They haven't paid attention to the fact that the logistics market is a big industry (with many different means of transportation and services) with different kinds of regulations and that the market was full of strong players that didn't intend to sit and wait for what will happen. So instead of waiting, they invested heavily in building their own digital solutions. And I would say those companies were faster than the digital breed. And as many shippers have much wider needs than DFF can provide, there is little sense in switching completely to digital companies. If digital freight forwarders had chosen the strategy of becoming digital partners of existing freight forwarders, they would have gained more importance. Instead of the war, I believe they needed to take the way of becoming Android in the logistics industry. A digital standard that every logistics company uses.

### **They started too soon**

Digital freight forwarders started too soon. However, the digital business model will make a lot of sense when other supply chain technologies mature, like Micro fulfillment centers, driverless cars and ships, blockchain contracts, and Artificial intelligence's profound usage.

Considering all the different kinds of regulations between countries etc., we still have many years ahead of us until the above technologies are widely used. So I would say at least 15 years until we see a fully automated and autonomous supply chain. Why do I think so? Because I do not see any fast development in other technologies, except for MFC and Blockchain.





Their technology is evolving too slow. Digital freight forwarders have been in the market for about 10 years. Sadly but we do not see any profound breakthrough in their technology. Look at what Tesla achieved in the 10 years and compare it with digital freight forwarders. Tesla did some remarkable things with their battery technology, and digital freight forwarders are still talking about visibility and paper, and pencil-run freight forwarding business (which is not true). In other words, within 10 years, nothing new was introduced, but billions were consumed.

### **Irrational growth**

I do not know the customer acquisition costs of digital freight forwarders. But considering marketing expenditures, sales managers' bonuses (which were much higher than the market's average), and other irrationalities, those costs should be big. So now we need to ask, will those considerable customer acquisition costs pay off? Of course, as the shippers lifetime value is big, this can pay off. But as the sales were generated with massive marketing and sales development expenditures, and there are no real differentiators of their services, there is a considerable chance that a big percentage of generated customers can choose to leave them in the upcoming two years. Why do I think so? Because DFF created hype with their marketing but not a sustainable business model. And every trend, at some point, loses significance. The pivotal moment was reached this year when digital companies started talking about layoffs, over-spending, and management changes. Of course, they have gained momentum with previous marketing and sales activities, but the future is unclear because they are losing faith.

### **What will happen with the digital freight forwarders ?**

In my opinion, many of them will face problems in the upcoming year or two. Because the cheap money is over, I doubt more VC investments will be made in the existing market players. Bankers will ask for stellar finances and growth. And this will be hard, considering the competitive environment and pace at which other traditional freight forwarders implement digital solutions.

The market now can offer many digital tools for traditional businesses. Traditional freight forwarders can become digital freight forwarders without significant investments. And this fact will eliminate the wow point of digital freight forwarders. Moreover, the upcoming recession will not help them to grow faster.

Let's face it the growth cycle is over, and less money will be spent on shiny tech solutions as companies prefer practical things, like cheaper freight, insights, and long-term partnerships during a recession. Moreover, existing market players are also starting to invest in marketing and advanced business development strategies, so the fight will not be as easy as before.

The two upcoming years will be decisive for DFF. In my opinion, some will be acquired by ocean carriers, who are entering new market niches in the case of ocean digital freight forwarders.

This type of acquisition can work out with the added understanding of the logistics market and generated profits of the ocean carriers, which can be spent on future developments.

Digital freight forwarders can also be interesting for online retailers. Still, as the e-commerce segment is also facing problems, there is a big chance that they will skip any unnecessary investments shortly.

Maybe Amazon is also considering acquiring Flexport. Perhaps they exported Dave Clark to find out if Flexports solution can add value to Amazon.

Ultimately, I want to say that digital freight forwarders also did some great things for the industry.

They showed other market players that digital processes are essential for any organization.

They showed the way for other market players. Therefore I can't entirely agree that the

investments made into DFF were a waste. I will look at the future market developments with

huge interest. As I said, I do not write of digital players, as digital is the future, although the business model can be completely different.

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# 02

**Miaka miwili ya**  
Mhe. Dkt. Samia Suluhu Hassan

#Kaziiendeleee

