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SABOA BUS

VEHICLE OF COMMUNICATION OF THE SOUTHERN AFRICAN BUS OPERATORS ASSOCIATION



IVECO BUS



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Message received

A message to Garcia' is an essay by Elbert Hubbard in reference to US intelligence officer Andrew Rowan's mission – accomplished against massive odds – to make contact with revolutionary leader General Calixto Garcia when the Spanish-American War erupted in 1898. US president William McKinley knew he needed to swiftly secure the co-operation of Garcia – embedded in the mountainous jungles of Cuba – and entrusted the challenge to Rowan. The essay highlights the fact that Rowan asked no questions, sought no guidance. He immediately set out to do what he was asked to do, and he did it. No excuses. No request for detailed plans of how to accomplish the task. He didn't hesitate. He didn't waste time. He didn't give up. He was tough and tenacious. He kept his eye on his goal.

What's the relevance of an essay penned more than a century

ago? It lies in the character traits the tale highlights. And it's a message that's been taken to heart by the group of learners who passed through Vix Technology SA's learnership programme last year. The company has subsequently employed eight of its 15 graduates, in various roles.

While being interviewed about their experience of the learnership, the name 'Garcia' kept cropping up. COO Eben Martincich then outlined the

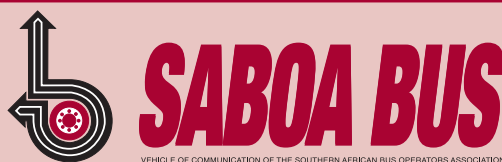
story, which had clearly made a great impact on the class, with learners taking on board its message about tenacity and drive. It was a heartwarming interview (see page 15). The project clearly exceeded expectations all round – for the learners and for their host organisation – and its impact will undoubtedly be far-reaching.

Food for thought from 120 years ago? Certainly.

Cindy Haler, Editor



SABOA'S Ramona Mudali (second from left) with Vix graduates



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SUPPLIERS

The shape of things to come

Although various factors have combined to suppress growth in the bus industry, there are avenues and opportunities which hold the promise of progress

THERE has been little growth in the bus industry over the past six years, certainly since the surge sparked by the 2010 World Cup. While some years have seen a slight upswing, these have been counterbalanced by years marred by negative growth figures – and averaging the statistics indicates that little real growth has been achieved.

Front engine vehicles continue to dominate, making up more than 80% of the market, primarily because of the lack of activity in the BRT and city bus arena in which rear engine vehicles are favoured. State-owned entities are maintaining existing fleets, rather than renewing, while the lack of progress towards long-term contracts makes it difficult for operators to secure financing for fleet investments.

Will the stalemate persist? Iveco South Africa Bus head Ray Karshagen, questioned on the shape the industry might be in a decade down the line, says that the escalating congestion on South Africa's roads has to be contained by reducing the number of vehicles – and the solution lies in encouraging people to use public transport.

Karshagen is adamant that the current

status quo cannot be maintained. The affordability of alternate technologies and the political will to drive changes in emission standards will prove crucial in mapping the course of the industry in future. A concerted push to universal access – simplifying boarding and disembarkation – is one of the factors that should encourage commuters to switch to public transport.

In addition, the future he foresees encompasses alternative fuels and drives, moving beyond diesel not just to compressed natural gas but also incorporating liquefied natural gas vehicles as well as electric buses.

However, it's unlikely that government will provide the impetus for the upswing, notes Karshagen, adding that it's important for the industry and industry experts to drive the process.

Although vehicle manufacturers may be ready to provide alternative fuel options, it's vital that infrastructure development is set in place to pave the way for successful projects.

Any migration to alternative fuels would also require the introduction of legislation to facilitate its adoption, to deal

with the weight penalty that invariably accompanies a move to these fuels (battery packs or gas cylinders, for instance). Drive axle weights and rollover criteria would have to be addressed, because the inclusion of energy storage devices affects vehicle centre of gravity and dynamics.

The political will to drive change is also an important consideration – ideally, emulating European governments' subsidising of 'green' transport purchases to reduce the sting of higher purchase prices.

Despite the hiatus in industry growth, Iveco Bus has continued to build its footprint in the local market. Karshagen says that 2017 was a year of consolidating and bedding down the manufacturer's product range (the Afriway line-up comprises 4x2 and 6x2 offerings fitted with a choice of manual or automatic transmission). In addition, the OEM focused on assessing vehicle performance in different operations, spanning sea level to high altitude conditions, and flat to mountainous topography.

A move into BRT and city bus territory is also on the cards, as the local operation is set to add a suitable offering to its product portfolio on the back of an order

Abidjan has opted for the CNG version of Iveco's Crealis offering for the BRT segment. Over the past 20 years, Iveco Bus has developed CNG as an alternative driveline: buses powered by natural gas offer quieter operation, without particle emissions. Nearly 500 Euro V Crealis units have been sold, with the Euro VI version providing the choice of more than 3 000 style combinations



Iveco's Crossway range, designed for intercity and school transport, is a reliable workhorse for short and medium distance passenger transport



Iveco has won to supply this configuration into other right hand drive markets.

As well as its BRT and city bus plans, development of a corrosion-resistant bodywork option is under way to position the manufacturer to address coastal markets. This initiative will enable Iveco to tap into coastal operations in cities such as Cape Town, Port Elizabeth, Durban and cross-border in Namibia.

Adopting alternatives in Africa

The Ivory Coast city of Abidjan is setting the pace for Africa for CNG adoption, contracting with Iveco Bus for the supply of 50 Crealis CNG BRT buses, as well as 400 Crossway low entry units to bolster its public transport offering.

The order comprises 400 Crossway low entry and 50 Crealis 18-metre compressed natural gas (CNG) buses for the Abidjan Transport Company SOTRA. Delivery commences from mid-year.

SOTRA, founded in 1960, was West Africa's first public transport company. The Iveco order continues SOTRA's pioneering role and highlights the commitment of the country's president and government to investing in public transport and developing sustainable mobility.

The fact that the Ivory Coast has opted for a natural gas transport solution is an endorsement of the viability of the technology for the country, as well as an indication that gas supplies are readily available and accessible. Natural gas vehicles are an effective answer to environmental concerns and – significantly for Africa – present mature,

efficient passenger transport solutions.

The CNG Crealis offers major benefits in terms of pollution and noise reduction: fine particle emissions are reduced to nearly zero and nitrogen oxide emissions by more than one third, while noise level is reduced by half, providing unprecedented on-board comfort levels.

Iveco Bus has delivered nearly 500 Crealis units for bus rapid transit (BRT) duty in the past decade. In addition, Iveco has established a 20-year history in the natural gas vehicle arena, where it lays claim to undisputed leadership: about 6 000 units are in operation in Europe. SOTRA joins a prestigious list of Crealis customers, which includes Bologna in Italy as well as Nancy and Le Mans in France and Baku in Azerbaijan in the CNG version.

In addition, SOTRA is doubling its

fleet with an order of 400 Crossway 12-metre low entry buses. The vehicle's versatility, reliability and excellent operating profitability have seen it earn favour among urban and inter-city transport operators – and the Crossway Low Entry earned international press accolades as '2017 International Bus & Coach of the Year'.

Sylvain Blaise, Iveco VP in charge of Iveco Bus, says, "We are very pleased with SOTRA's choice, confirming a strong political vision of modernising and massifying Abidjan public transport using sustainable solutions. It was natural for Iveco Bus to position itself as a key enabler of such a vision with our products, services and financing solutions. This is, for us, a real recognition of our leadership in BRT, gas and urban mobility solutions." ■



Deal done: Ivory Coast has contracted with Iveco Bus for the supply of 50 Crealis CNG buses and 400 Crossway Low Entry units, in a project which will modernise Abidjan's mass transit system in a sustainable manner. SOTRA director Meité Bouaké (left) and Sylvain Blaise, Iveco VP in charge of Iveco Bus (seated) sign on the dotted line with Ivorian delegates, including transport minister Amadou Kone

New player in the lubricants market aims for growth, expansion

By Howard Mellet

ONE of the newest lubricants vendors to appear in the increasingly competitive South African marketplace is the aptly-named OILY Group. Cape Town based, the company is an exclusive distributor of Gazpromneft, G-Energy and ECOSYN lubricants, all imported from Europe. They are designed for use in passenger cars, trucks, buses, off-road and industrial equipment and marine applications.

OILY's local operation is headed by Viesturs Zalaikalns whose goal is to broaden the company's footprint in southern Africa and further afield.

"OILY is an independent, global organisation, functioning as a marketing and sales channel for high quality lubricants blended by Gazpromneft-Lubricants, one of Russia's largest producers with production sites also in Italy and Serbia. It has a total production capacity exceeding 560 000 tons per annum," he explains.

A young company, OILY has been in existence for three years, starting initially in Latvia and most recently in Singapore, running operations in the ASEAN region. It has now decided to tackle the South African market and has set its sights on forming productive partnerships with SA-based transport operators.

"We might be new players in South African lubricants market, but we are well aware of how the game should be played as our executive staff

members have been active participants in the global fuel and petrochemical arena for over 20 years," says Zalaikalns.

"We entered the market because we see significant prospects for our product portfolio not only locally but throughout Africa. Strategically, we are well-placed for growth and expansion."

Focusing on OILY's supplier, Zalaikalns says Gazpromneft-Lubricants has a presence in around 70 countries, with emphasis on Central and Eastern Europe as well as Asia. Most importantly, Gazpromneft's products are synonymous with technological innovation and quality, having been tested and approved by all the major OEMs, including Mercedes-Benz, MAN, Volvo, Scania, Renault, Cummins, KAMAZ, Mack and others.

The lubricants comply with international standards and meet all technical requirements to be used in the first fill on these OEMs' assembly lines.

Zalaikalns says, "OEM approval, particularly from these global heavyweights, is noteworthy as it removes any questions around product quality from future discussions with potential customers."

OILY also has access to Gazpromneft's G-Energy brand for its premium product range with even higher levels of product



Viesturs Zalaikalns, head of the OILY Group's SA operation

performance. "With these two brands we are able to address around 90% of the total lubricants market. Between them there are more than 500 SKUs [stock keeping units] available," he notes.

Turning to the characteristics of the SA market, he believes it is even more competitive than most European markets. "In addition to the universally recognised brands, there are also other imported brands and a number of local lubricants blenders competing for a slice of the sales pie. However, our competitive edge is our product quality – as attested to by the OEMs – and a keen pricing structure which is our deal 'sweetener'."

OILY has already established its presence in SA by exhibiting at Automechanika 2017 and growing its



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distributors' network in Gauteng, Free State and the Western Cape. In addition, OILY recently became a member of the Southern African Bus Operators Association (SABOA), reflecting its keen interest in this mass transport sector.

OILY has a program in place to re-equip and rebrand professionally-run and operated commercial vehicle workshops under the G-Profi Service name, Gazpromneft's retail commercial vehicle lubricant brand banner. "The arrangement has

significant commercial benefits for owners," says Zalaikalns.

Questioned about product distribution in SA, he says OILY is leaving this important task to the professionals, in this case, one of the major logistics and warehousing groups specialising in lubricants.

In line with its emphasis on "doing business differently" OILY is looking to expand its technical and sales corps in SA. It would like to employ enthusiastic staff members who identify with this strategy and who

want to establish themselves in the local lubricants market.

Against this backdrop, Zalaikalns says he has plans to make imminent inroads into the heavy commercial vehicle market. Dealing with and supplying HCV operators will be seamless, particularly as there is such a high degree of engine parity between HCV and bus fleets.

Also in OILY's future is the option to establish a local blend plant. "We are committed to the SA market, very serious and here to stay," he stresses. ■

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Participation urged to buoy technical committee

By Cindy Haler

Is the SABOA Technical Committee still relevant? The committee's first meeting of the year was dedicated to answering that question and charting a course for the year ahead

A RECURRENT concern voiced regarding the SABOA Technical Committee is that some topics on the organisation's agenda appear to linger indefinitely, never reaching a conclusion or resolution. However, a clear message to emerge during the February meeting of the committee, hosted by SABOA at Fourways' Indaba Hotel, was that members need to take an active role in ensuring that progress in tackling issues is achieved.

The meeting, run by Golden Arrow Bus Services company engineer Gideon Neethling, focused on rectifying falling attendance and spurring greater participation. The expectations and requirements of principal – or operator – members when attending meetings, as well as the requirements of associate (supplier) members were also discussed. Neethling urged participants to use the platform to speak their minds, emphasising that active participation would be crucial in ensuring that the committee flourished. "We cannot leave it to one person to move things off the agenda," said Neethling. "If people do not vote or participate, they cannot criticise. More people have to get involved. The only way to get value out of this is to contribute and participate. If you're a passive member, it's not going to work."

SABOA executive manager Eric Cornelius said it would be no overnight task to revive the committee, asserting that relevant issues and agenda items needed to be placed on the table to draw people back to attending meetings. However, the Association required the support of its principal members to come up with the technical topics to place on the agenda.

Suggestions to spur interest included feedback on operators' visits to international trade fairs, to provide insight into developments in the pipeline and the path the industry may follow in future. Other topics of interest put forward included feedback on BRT, CNG, low floor buses, electric buses, progress on performance-based standards and permits, RTMS and RTMS case studies (and, allied to RTMS, exploring avenues for large operators to assist SMMEs), wearable technology, SANAS (the South African National Accreditation System, responsible for carrying out accreditations in respect of conformity assessment), and commuter safety systems. A Competition Tribunal presentation was also suggested.

It was envisaged that future meetings could devote an hour to a range of brief, informative presentations, followed by working through agenda items. Presentations, however, should focus on technology and developments, rather than product or brand promotions. Proposals should be submitted to SABOA, facilitating allocation of slots. Ideally, this should facilitate a list of interesting topics as a basis for the year's meetings. Topics could be prioritised, with SABOA members providing presentations, or industry experts drawn in to provide their input.

Also highlighted was the dearth of technical knowledge in the industry. Although technology provides ready access to a wealth of information that has eliminated much of the legwork of the past, there is nevertheless huge value in being armed with knowledge that comes from understanding the technicalities.

There is also a need to create awareness of the meaning of the new

terminology that has swept in as technology and vehicles have developed – the implications of low floor and low entry, for instance. SABOA could play a valuable role in fostering technical knowledge and a solid understanding of the industry (not just for operators, but suppliers too). This could prove invaluable for new SMME entrants to the industry. Education to create understanding on topics such as universal access, rollover, seat strength requirements and local content (how it is calculated, what is excluded) would be useful.

Given the increased prominence of rear engine buses for inner city duty, the topic of axle loading legislation had to be addressed, to ensure that operators are not penalised on the revenue front for running a rear engine bus (drive axle legislation means more passengers can be carried on a front engine vehicle). Rollover legislation should also be addressed, because it would be useful to distinguish between commuter buses (which require rollover) and city buses (which, for various reasons, may not). It was important that SABOA's case on these topics be presented by a technically astute person – and by someone dedicated to the task, preferably appointed by SABOA.

It was agreed that six meetings would be held throughout the year, with alternate monthly slots providing top-of-mind awareness – it was felt that allowing too much time to elapse between meetings allowed inertia to creep in and made cancellations more likely. In addition, the suggestion that two of the year's six meetings be held outside Gauteng (possibly in Cape Town and Durban) was well received. ■

Setting standards so operators aren't playing with fire

By Cindy Haler

Advanced Automated Systems – AAS – is hoping to make a positive impact on the local bus industry, by encouraging operators and OEMs to install bus fire detection and suppression mechanisms as well as ensuring that these deliver acceptable quality and performance levels

INSTALLATION of fire detection and suppression measures on mining and heavy equipment is widespread, but uptake in the local bus and coach sector is lagging significantly, says Advanced Automated Systems (AAS) technical manager André van Huyssteen. Aggravating the situation in the transport segment is the tendency to install the cheapest offering available, with no assurance of quality or efficacy.

Buses have many potential risk areas on the fire front, notes Van Huyssteen, compounded by the toxic fumes released during combustion. “Buses are made from many materials that are toxic once they combust and these toxic gases account for many injuries in bus fires. The majority of materials used for panelling and in the interior fit-out of a bus, including the fixing adhesives, are flammable and generate highly toxic smoke and gases during combustion.

“The toxic smoke and gases released into a relatively confined space pose an extreme risk to passengers and are the most prevalent cause of casualties and fatalities. The concentration of gases and heat can also build up to a point where the gases ignite, creating a ‘flash over’. Examination of bus fires generally shows that fire very rapidly consumes a bus once it enters the interior.

“The key aspect is having automated

early suppression systems in areas in which fires could originate, dealing with the fire at inception.”

For Europe, the United Nations has issued UNECE Regulation 107 stipulating that all buses with seated-only passengers must have SP 4912 approved automatic fire suppression systems fitted from July 2018. The standard incorporates tests from the SP Technical Research Institute of Sweden, which focuses on applied research, technical studies and investigations, quality assurance, standardisation and certification.

Van Huyssteen is optimistic that SA will fall in line with European norms, given that SANS SP 1911 is likely to be set in place in SA by the middle of the year for heavy machinery and buses – SANS 1911 also requires that automatic fire suppression systems on buses must be SP 4912 approved. (Minibus taxis have been excluded from the scope of the current initiative, but there are plans to incorporate medium vehicles down the line.)

AAS formed part of the SABS technical committee responsible for drafting the SP 1911 standard on fire protection systems on heavy machinery and buses. “The need for this standard arose because of the number of sub-standard fire protection systems which have been fitted to buses which are not able to effectively combat fires. The standard is expected to be

published toward the middle of this year and we hope that it will give bus operators peace of mind in selecting fire protection systems for their coaches,” says Van Huyssteen.

Under the SP 4912 programme, systems undergo rigorous testing in 11 scenarios simulating realistic hazards which may be encountered on a bus. What this boils down to is that a system which makes the grade will be well suited to combat fires which may occur on a bus in real life.

Surprisingly few systems have achieved approval, asserts Van Huyssteen, cautioning customers to be wary when considering systems which have not been proven to be fit for purpose.

Key areas prone to fire on a bus include engine compartment, wheel well, electrical components and bus body. “By installing superior systems throughout the key risk areas of the bus, the threat of a fire is drastically reduced. The fire will be dealt with at inception, while it is small and weak, not allowing the fire to penetrate to the interior of the bus and minimising the release of toxic gases.”

Although the SANS system is a recommendation rather than a compulsory specification, Van Huyssteen says its benefit lies in providing a basis for testing fire suppression equipment. “There have been systems which have been

manufactured in garages, which have not been tested and do not conform to any quality standards – but clients have not had a standard in place to gauge the product. Often products which are purchased on the basis of their low cost prove to be ineffective in combating fires. The drive to implement standards is to counter the bad systems on offer out there.

“In terms of the standards, if the system you have in place adheres to testing procedures – proving that it can extinguish fires under real life conditions – it’s suitable to install. If not, it shouldn’t be installed. If you’re going to pay good money to install a system, ensure that it adheres to standards: don’t just pay and hope that it works.”

For operators considering fire detection and suppression systems prior to publication of the SANS standard, Van Huyssteen recommends asking the supplier whether the product conforms to ECE Regulation 107 as a litmus test. AAS is striving to raising awareness of standards governing bus fire systems, so that when buyers do invest in a system they opt for a package which complies with quality and testing criteria.

AAS is seeking uptake of fire detection and suppression equipment both at OEM and operator level, although the lack of legislation does little to spur momentum (a handheld extinguisher on board is all that is required at present).

The frequency with which bus fires occurs is shocking, reckons Van Huyssteen, with fires affecting an estimated 2% of the European bus parc every year. In South Africa, poor vehicle maintenance compounds the problem. The majority of fires – 71% – originate in engine compartments, according to the SP Technical Research Institute of Sweden, with wheel wells the second most vulnerable point (24%). Ignition inside the bus accounts for about 4% of incidences.

One objection that Van Huyssteen regularly encounters is that the market is extremely competitive, with operating margins permitting little leeway in additional expenses. However, AAS is able to establish service level agreements with



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its partners, enabling operators to simply pay a monthly fee per system installed, with the partner responsible for management and maintenance. Dafo systems typically cost about 1% of the price of a bus.

The AAS system is manufactured in Sweden, where it undergoes rigorous testing encompassing a range of conditions.

AAS has been designing fire suppression systems for mines since 2010, broadening its reach to the bus and coach segment recently in line with pending implementation of the new standard for the sector. In addition to creating awareness of the standard, AAS’s intention is to ensure that if buyers are spending money on a system, they’re investing in a system which complies with requirements.

Its offering for the bus industry comprises Dafo Vulcan and Forrex ranges. The Forrex solution is a patented wet chemical solution that circumvents problems associated with powder, foam and water mist systems. The Forrex liquid cools the affected area immensely, inhibits the chemical reaction and creates a protective layer to prevent reignition. A key benefit of both systems is that pressurisation is not required, which equates to greater safety, reduced maintenance demands and extended service intervals (the actuator in Vulcan is maintenance-free for 15 years and the Forrex suppression agent for 10 years). Both systems provide 100% discharge in the event of fire. The Vulcan container is orientation-independent (unlike powder-based systems), enabling installation in the position most suitable for the operator.

Dafo’s Vulcan and Forrex ranges are one of only six systems to have passed SP 4912 testing, carrying the renowned ‘P’ mark. This means that in addition to fulfilling SP 4912 requirements, all system components in the full suppression system (nozzles, pressure cylinders, piping, detectors, electronic components, control panels) are tested – among other factors – for harsh environments, EMC, change in temperature, corrosion, vibration and humidity extremes. ■

'We cannot build our way out of congestion'

By Liesl Venter

More than 15 million people rely on public transport in South Africa every day. The monthly Transport Forum, held recently in Cape Town, put the spotlight on the importance of delivering a viable and sustainable transport network

IT is estimated that government has spent more than R130 billion over the past eight years on public transport projects. From the refurbishment of rail to the establishment of bus rapid transit (BRT) systems, there has been no lack of expenditure or commitment. Many might even argue that municipalities, along with local and national government, had gone above and beyond in improving infrastructure and providing more options to commuters.

Yet, the challenges persist. Sustaining the systems has proven to be difficult. For all intent and purpose, real solutions continue to elude. BRT systems have come under particular scrutiny and calls for government to rethink its infrastructure investment have been increasing.

"Viability and sustainability is a topic that every city in South Africa needs to consider," said Gershwin Fortune, acting commissioner of the City of Cape Town's Transport and Urban Development Authority (TDA). "It is not just about spending money quickly, but ensuring the quality of services provided is sustained and that no unnecessary strain is put on city coffers."

He said continuous operational cost had to be considered at all times otherwise it was simply not possible to roll out these major projects in metros at a consistent quality of service.

"Ever since 2006, prior to the 2010 World Cup, there was this great

initiative started by the Department of Transport to plough a lot of capital into public transport, with the idea at that stage being that if you frontload a lot of money and you improve efficiency in public transport, you can reduce the need for subsidy," he said. "But by 2012 we had realised it was not that simple, because by then Johannesburg and Cape Town had started operating their systems and it had become evident if one quantified the full cost of operating public transport – not just the pure direct operating cost, but all the cost – then the income from the ticket sales did not balance the total cost."

He said an income matching total operational cost was a myth and there was a definite need not only for subsidy



Gershwin Fortune, acting commissioner of the City of Cape Town's Transport and Urban Development Authority (TDA)



Harry van Huyssteen is custodian and organiser of the Transport Forum, a monthly meeting of the thought leaders within the transport sector of South Africa that provides a platform for debate as well as sharing knowledge and ideas

but also additional funding, adding that with many of the new systems under strain it would be water down the drain if left as is.

“It does not make sense if we plough R5 billion into the first phase of BRT and then stop. We need to figure out how we ensure that the infrastructure we build can be maintained and that the systems we implement are viable.”

He emphasised that the solution for cities was not in halting the projects, but rather implementing the next phases differently.

Fortune said ultimately South Africans needed to understand that building more and more roads for more and more cars was simply not an option, considering rapid urbanisation. Buses and rail had to be the backbone of the transport network, supported by smaller scale taxis. Bicycles and walking had to come into the equation as well. “We cannot build our way out of congestion,” he said.

According to Mapule Moore, TDA director: business resource management, in the light of ongoing public transport challenges congestion was starting to take its toll. With most minibus taxis and buses stuck in traffic for hours, the peak period had extended from two to an average four hours in Cape Town, officially the worst congested city in South Africa. The cost of this to the city

was around R2,6 billion per year.

“We urgently need change,” she said. “While the MyCiTi service has provided part of the solution, we cannot replace all scheduled bus services and minibus-taxis with MyCiTi scheduled services. But at the same time, significant deficits are being projected if changes are not made.”

Simply put, poor people will have to spend more money and more time moving from A to B as cities grow. This will increase inequality and poverty, ultimately constraining economic growth.

Bringing about change

Most experts agree the systems introduced in the country are solid and sound. It is the approach and the mindset to investment that has to change.

For any change to be effected, said Moore, integration had to take place – on a large scale. “In Cape Town, this means not only do we have to integrate the networks, but the fare systems, the timetables, the technology and the infrastructure.”

At the same time, cities have to relook land use and address spatial fragmentation. This would include maximising location efficiency so that people can walk, cycle, and use public transport, creating density to make



Ronald Salis, mobility specialist at T-Systems International

public transport viable. “Investment in changing spatial patterns is as important as investing in public transport infrastructure,” said Fortune. “The economic growth potential and operating cost of a city is directly related to the level of connectedness, integration and interoperability of its transport systems.”

Over and above, operating costs have to be reduced as much as possible to make it viable in the long run.

Using buses as an example, T-Systems International mobility specialist Ronald Salis said that if one looked at efficient systems in the



Mapule Moore, TDA director: business resource management



The viability of public transport was the topic of discussion at a recent meeting of the Transport Forum in Cape Town

TRANSPORT FORUM

developed world, the solutions were not necessarily complex or super high-tech.

“The critical factor is that there has to be a very clear and direct purpose of what must be achieved with the system. Only then can you plan delivery. It allows you to deliver directly to your specific purpose,” he said. This allowed for the right investment in the right infrastructure with the right vehicles and the right systems.

Salis said in South Africa often there were varying ideas of what this purpose was. “We miss the basics sometimes. We try to deliver perfect systems rather than delivering solutions that work for South Africa. You don’t need analysis paralysis and you don’t need a perfect system,” he said. “Implement systems that suit your environment, that are cost effective and provide value.”

At the same time, it was important to make sure one had the right skills set in place to deliver said service. This would address operational challenges. Delivery of public transport systems also needed to be sped up, he said. “We have only four BRT systems operating at various levels in South Africa. We have to execute faster.”

According to Sean Cooke, a researcher at the Department of Civil Engineering at the University of Cape Town, financing of public transport also needs to be relooked and also requires the adoption of a more unified approach across the various spheres of government.

“There has to be policy coherence as well as an integration and alignment of investments.”

Emphasising the need for partnerships, he said, it required the involvement of the transport industry at large and not just government departments.

This was reiterated by Clare Enslin of WhereIsMyTransport, who said it was essential this integration did not only happen in the formal public transport sector but included the large informal sector.

“BRT systems have very little understanding of and integration with



Sean Cooke, a researcher at the Department of Civil Engineering at the University of Cape Town

the informal bus and taxi sector, for example. You have to bring them together if you want to move towards mobility in cities that is efficient.”

This was a concept that was growing within the corridors of government, noted Enslin. Research into how the informal bus and taxi sector can also benefit from the dedicated bus lanes during peak hour traffic was ongoing. Improved integration could also address challenges such as reverse flow demand and the seat turnover rate.

“Integrating the quality bus services with the MyCiTi service would have major benefit,” said TDA director Moore. “If one could integrate the ticketing and timetable and use the same



Clare Enslin of WhereIsMyTransport

infrastructure with real time integration and monitoring, one is delivering a far more viable service.”

Reforming public transport, said Saffiya Aboo of Aurecon, was about making the connections. “We have to connect the right nodes through the appropriate mode of transport using the right technology framework,” she said.

This required a systems approach where one not only had an attractive fleet of vehicles servicing the public but also operations that were reliable and punctual, safe and secure.

This, said TDA acting commissioner Fortune, would require ongoing investment in the networks, reducing blockages and creating an interoperable system. “Investment in public transport is not optional – it is necessary for environmental sustainability, providing better access to opportunities for all residents, and for long term financial viability,” he said. ■



Harry van Huysteen, custodian and organiser of the Transport Forum, and Saffiya Aboo of Aurecon

Making a difference

By Cindy Haler

Nelson Mandela said, “Education is the most powerful weapon which you can use to change the world.” The sentiment has been brought to vivid life by the learnership campaign run by Vix Technology South Africa last year, which has seismically altered the outlook for the programme’s 15 graduates and provided new impetus to the company

It may be an unlikely source of inspiration, but an 1899 essay is the touchstone for Vix SA’s ‘Class of 2017’ graduates. The thrust of ‘A message to Garcia’ – a widely distributed essay written over a century ago – is the value of initiative, conscientiousness and tenacity. It’s a message that the Vix graduates have taken on board.

Vix South Africa’s debut learnership programme – run through the Media, Information and Communication Technology Sector Education and Training Authority – saw 15 learners complete a theory syllabus, complemented by workshop-based practical training and on-site experience at customer depots. As well as attaining N3 certification, learners gained useful practical experience and invaluable insight into how a corporate operates, says Vix SA CEO Tjaart Kruger. Vix SA has subsequently employed eight of the graduates.

Participants were unanimous in their gratitude for the course – both for the opportunity to participate, as well as for the doors that training has opened – but Vix has benefited too, with graduates slotting in as fully-fledged members of the Vix workforce. Buy-in from management and the workforce has enabled Vix to mould learners into the organisation and the industry, says COO Eben Martincich, describing as ‘manna’ the opportunity to hire the brightest and best.



Pioneering project: (front, from left) Sharon Malope, Simphiwe Masuluke, Susan Mohloki and Kopano Mabula with (back, from left) Tshiamo Mabula, Lebogang Mangena, Eben Martincich, Vhahangwele Sigari and Tjaart Kruger



Graduation day: Vix SA CEO Tjaart Kruger presides over proceedings as Vix’s debut group of learners graduates

TRAINING

VIX SA CLASS OF 2017:



Vhahangwele Sigari (25)

From: Alexandra,
Johannesburg
Background: Grade 12; N1 - N5 Certificate in Electrical Engineering
Interests: Reading books; playing soccer



Simphiwe Masuluke

(21) From: Soweto
Background: Grade 12
Interests: "Achieving my goals"

Simphiwe received a commendation from Paul Mainganye, Director: Subsidy and Funding, at the Limpopo Department of Transport for prompt and efficient service in preparing and delivering a report that was requested. Simphiwe received the first 'Creating a better customer journey' award, recognising customer service excellence. The award was created to recognise and honour Vix SA employees who make a difference in customers' lives by being pro-active, professional and going the extra mile.



Lebogang Mangena (30)

From: Soweto
Background: Grade
12 Interests: Soccer



Tshiamo Mabula (29)

From: Palmridge,
Johannesburg Background:
Grade 12
Interests: acting (with newsreading and voiceover auditions under his belt, Tshiamo aspires to a role in 'Generations').



Motlalepule (Susan) Mohloki

(26) From: Orange Farm,
Johannesburg
Background: Grade 12 (had embarked on tertiary studies in IT and subsequently agriculture, opting for the Vix SA learnership instead).
Interests: Reading



Sharon Molope (26)

From: Soshanguve,
Pretoria Background:
Grade 12 Interests: Singing



Kopano Mabula (25)

From: Palmridge, Johannesburg
Background: Grade 12; N5 Certificate in Electrical Engineering
Interests: Singing

Boitumelo Makaleng (24) and **Bongani Sithole (22)** were unavailable for the interview as they were on site at client premises. Boitumelo has Grade 12 and an N6 Certificate in Mechanical Engineering; Bongani has Grade 12 – both are interested in playing soccer.

What did you do before the course? What are you doing now?

Vhahangwele: I was busy with electrical engineering and obtained my N1 to N5. I'm an assistant technician, responsible for repairs, production and installation in buses.

Simphiwe: I had just matriculated and was not doing anything. I had applied to study and was waiting to enroll the following year. I'm a data analyst.

Lebogang: I was working as a petrol attendant, now I'm the storeman.

Tshiamo: I had worked at Glozell and was retrenched after four months because of restructuring, so I was doing short term contract work and 'side hustles'. I'm involved in projects and building data sets for clients. [Tshiamo is a fully-fledged member of a project team tasked with taking route surveys and building topology, with optimised routes a crucial element for any successful bus operator.]

Susan: I was studying agriculture and environmental sciences at Unisa. I had studied for two years, but along the way realised that it was not a career for me. This opportunity came at the right time – I decided to do something enjoyable instead of something I didn't even like. Now I'm an assistant technician. I'm also in admin. I fix modules. I do quality checks on machines. [Susan regularly outpaces workshop stalwarts' output and consistently outperforms the time standards in place for workshop staff for specific tasks – output has never been so high, says Martincich. "There's a lot less talking and a lot more doing," he says, highlighting Susan's 110 to 120% output volumes. Susan says, "I get here at 6.30 or 7 and leave between 5 and 5.30. You can't keep clients waiting, so you need to be on top of your game always. If you promise something, you need to deliver."]

Sharon: I was working at Goldrush as a betting clerk and had a side job doing stock taking. Now I'm a data analyst and work on reports.

Kopano: I was doing electrical engineering, N5. I'm involved in quality assurance and assisting in admin. [Previously machines that had been repaired were checked by another technician; now formalised quality procedures and checks are in place.]

How did you find out about the course and why did you apply?

Vhahangwele: Someone from Vix told me about the course and I submitted my CV. I was very happy to get the opportunity because I'm dealing with electronics, which relates to what I was doing.

Simphiwe: A lady who works at Vix as a housekeeper told me about it; we go to the same church.

Lebogang: A family friend told me about the Vix learnerships. I applied because I'd wanted to learn about electronics. I had travelled on a Rea Vaya bus and wondered about the ticketing machines I'd seen – what they do and who had created them.

Tshiamo: I'm a member of a Whatsapp group for people who are not working, to find jobs and learnerships. I applied because it was something completely different. It was a market I'd never been exposed to, so it was a good opportunity to start something new and start afresh.

Susan: My grandmother has retired, but worked here as a housekeeper for a very long time – her daughter-in-law works here now. My grandmother suggested that I try.

Sharon: I heard about the course via a family friend working at SETA: she gave me the e-mail address and fortunately I was called for the interview.

Kopano: On social media: Tshiamo sent it to me. [Kopano and Tshiamo are siblings.] I thought it was another scam: I didn't know what Vix was, I didn't know where Bryanston was! But I went on the internet to check it out.

What's the most useful thing you learned?

Vhahangwele: I know the difference between a work environment and a family environment, and what's expected of you when you're at work. For example, in terms of time management: at work you must be on time and you must leave on time. At work, with everything you do, you must measure your time. You must plan what you're going to do for a day and how long you're going to take.

Simphiwe: I became computer literate, with Excel and Word. I had done a bit at home – self-taught – but I wasn't really interested. There was no internet connection, so I'd just play games.

Lebogang: What I've learned about is the TP5800 ticketing machine. I know how to fix it, I know how to solve problems. Vix has given us many opportunities. [Learners were all rotated through various divisions of the business – as well as to customer sites – providing exposure to different tasks and fields.]

Tshiamo: Strategy. Strategising is important. Nobody plans to fail: you plan to succeed. But unforeseen circumstances can occur and that may require you to drift from the path and take a different route to get the result. You need a clear strategy to minimise the damage that may be caused by these unforeseen circumstances. Learning how to work around things to achieve goals despite challenges was very important. If you encounter an obstacle, you keep going: you need to think not even outside the box – the box is too small! You need to think outside the room, outside of your comfort zone.

Susan: Communication is very important. When you talk to somebody, you get to know where you stand and what is expected of you – instead of assuming wrong things and not doing what is expected of you. It's very important that you have good relationships and good communication

with your boss and colleagues. It's also important to be happy in what you're doing. I had started studying IT and agriculture, but I knew that this was not what I wanted to wake up to do every morning for the rest of my life. If you're not happy, you're not going to be at your best.

Sharon: Being diverse. We were given an opportunity to work in different fields. I was fortunate to work on site, I learned to install equipment on buses, I learned how to fix the machines and to maintain the machines on site. If a machine has an error and the bus driver has to go to work, you need to fix the machine. I've also learned to analyse reports, to help clients. I've learned the value of customers. It's very important that customers are happy, that you deliver on promises you make.

Kopano: Problem solving, time management and planning.

What was the most challenging or difficult part of the training?

Vhahangwele: Sometimes it was hard for permanent staff to share information with us. As the course went on, this was less of a problem and now everything is fine.

Simphiwe: The practical part was challenging: going into the workshop, dealing with tools, lifting machines. I always thought it was a man's job, but when I got there, I had to put on an overall and get on with it. It was challenging, but not difficult.

Lebogang: When they give you a board and say you must solve the problem, when there's a problem with the components. That could be tricky and was a bit challenging.

Tshiamo: It was quite demanding. I went to the workshop and spent a couple of months with Vix, but then I was quickly put into projects. It was a bit difficult to adjust, to get the hang of everything, to understand processes and why things are done in specific ways.

TRAINING

Susan: It was challenging when I got to the workshop. It's a male-dominated environment. I'm really small, so there was some doubt about what I could do. There was pressure to prove myself, that as a woman I am more than capable of doing what male colleagues are doing. Another challenge was the volume of information you had to take on daily, because you're not doing one thing at a time – everybody is giving you tasks and you need to give good feedback. This was even more challenging because it was an unfamiliar environment.

Sharon: I was in the first group to be sent on site – and depots are very big. You'd walk from one end to the other to find the buses, in sun or in rain. That was quite challenging. I went to North West Star's four depots.

Kopano: Getting to a workshop and finding technicians working and saying that they don't have time for women. Sometimes they would help, sometimes they'd let you figure it out for yourself.

What was the most enjoyable aspect of the course?

Vhahangwele: The experience I have now. I really enjoyed the course and feel very good about it: I have one year of experience and am still with the company. I've been given the opportunity to prove myself.

Simphiwe: The theory part.

Lebogang: Going on site [to Metrobus in Milpark]. I enjoyed studying and fixing machines in the field.

Tshiamo: The whole project – from its start to how it ended – was exciting and life-changing. I had challenges throughout the year, but was able to learn. I realised that I was stronger than I thought I was and could do more.

Susan: The exposure we got to a lot of different things. You get to see that it's

not just about buses and machines, but also the operation behind that, the technology behind it, the part you have to play as a team member. You get involved – you have something to do and say. That's very enjoyable, in contrast to just listening to somebody and having no input or role to play. Even though we were students, we were fully involved. You're given the opportunity, then it's up to you what you do with it.

Sharon: The knowledge that we gained and the opportunity. Vix didn't limit us from the knowledge: they gave us the materials, they gave us everything we needed. It was up to us to be determined to make the most of the opportunity, to observe everything.

Kopano: Gaining information. I never knew about this field before.

What's the best piece of advice you received during training?

Vhahangwele: You have to work hard to achieve. You have to be patient too, in order to achieve.

Simphiwe: In a meeting one day, Eben told us that we need to focus on learning to learn. That became my daily inspiration – learning something before I go home every day. I still do that.

Lebogang: Always work hard.

Tshiamo: We were busy one day and we were tired. I was saying how easy it is to give up when you're feeling fatigued. My colleague said to me, "I'd rather be tired than be broke." That was a wake-up call. I don't want to be broke; I'd rather sweat. There's also another level of being broke – not just the financial part, but being 'knowledge broke'. You could be lucky with Lotto, but you can't just be lucky and absorb the knowledge all in one go.

Susan: Eben has been one those people who made us think about why we are here. He said that you can have

fun and play – but must be more willing to learn than anything. I believe the sky is the limit, if you put your heart and mind into it.

Sharon: Never give up. There were points where I was discouraged, it wasn't always smooth sailing. Always strive harder to achieve, to be the best.
Kopano: Don't let anyone tell you that you can't because you're a woman.

Has the course changed your life?

Vhahangwele: I was the kind of person who didn't care about some things, now I've seen that I have to take life seriously. There are things that take patience. That's why I'm still here today.

Simphiwe: I've grown a lot and it has changed me a lot. Before, I knew nothing about work – I had no experience or business background.

Lebogang: It has changed my life. I wouldn't go back to working at a petrol station; I'm happy where I am now.

Tshiamo: Sometimes you can look at certain industries and not see the opportunities. When I thought about logistics, I only thought about cars – I never thought about buses and trucks. This is a big step. I think it's the cornerstone of what I'm to become in the future. If I do my best, I believe I'll get very far. It's a really interesting industry, with endless opportunities for growth and learning.

Susan: The course has changed my life. Now I have work experience and I know that I'm capable of doing things besides being at a desk studying, or behind a screen. I'm grateful for the opportunity and am willing to spend more years learning.

Sharon: I went to a technical school for matric, but did lots of different things: promotions, construction, short courses. My passion was really in electronics, so I was very happy to get the opportunity.

Kopano: It has, because I'd never worked before. Also, all the electrical part I'd done was theory – here it was all practical.

Do you plan to study further and, if so, what?

- Vhahangwele:** I want to finish my N6 in engineering.
- Simphiwe:** I want to continue with IT. I was thinking of studying for networking and would like to obtain a degree.
- Lebogang:** I'd like to do logistics, through Damelin.
- Tshiamo:** I'd like to do courses on project and logistics management.
- Susan:** I'm thinking of studying IT, but I don't want to stick to the norm – I want something more challenging. I want to study something that allows me to use my hands, not just sit at a laptop.
- Sharon:** Yes, I want to do data analysis.
- Kopano:** I want to finish my N6 then go for a trade, then I'll take it from there.

Kruger says he is very proud of the outcome of Vix SA's decision to take action to make a difference – despite entering uncharted territory, with no guarantee of success (CSI learnership initiatives tend to prove vulnerable to high dropout rates, even if employment is guaranteed on completion). All 15 Vix learners persevered and performed, notes Kruger.

“Your attitude will determine your altitude – and our learners’ attitude has been fantastic,” says Kruger. “They’ve embraced the opportunity and made things happen. They’ve been pioneers in this field, paving the way for us to touch

the lives of other learners who will follow in their footsteps. This group will be a huge success in whatever they choose to do. And what they’ve taught me is to be prepared to be amazed.”

Following the success of the initiative, Vix SA has earmarked a dedicated training facility for future

intakes. The groundbreaking course is also likely to provide a model for Vix to emulate in its other regions and communities (transport ticketing specialist Vix Technology has projects in more than 200 cities and regions across the globe, with 650 personnel across more than 10 countries).



Reflecting on the experience: Vhahangwele Sigari, Simphiwe Masuluke and Lebogang Mangena...



...and Lebogang Mangena and Tshiamo Mabula



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Analytics Risk Management System for profitable change

By André Groenewaldt

DUE to increasing and ongoing pressure on company margins, policy uncertainty in the industry, cost escalations and declining revenue, business leaders in the bus industry need to find new and innovative ways to secure future sustainability of their businesses and retain acceptable levels of profitability to see them through the current difficulties the industry.

Thanks to new technologies and analytics capabilities, almost every facet of our day-to-day life is subject to digital disruption. Analytics has become ever present across every industry and business domain. This is no different for fleet management with data becoming the new oil. The fleet industry is on the verge of a productivity revolution through the introduction of faster, better, and more sophisticated analytical tools.

Improved and increased data information now enables us to model and view vehicle fleets holistically as a dynamic system, detecting underlying data trends and patterns throughout the fleet not previously discovered and revealing the 'not so obvious' root cause factors driving fleet risks and costs.

What makes this new era of analytics driven fleet management so attractive?

- It unlocks extraordinary new potential for capturing substantial underlying profits with fleet operations now linked to financial statements to identify new opportunities for improvement not discoverable before.
- It accelerates overall productivity growth through linking high volumes of telemetry data with sales, routes, transactions and behaviours to make sense of a broader picture which uncovers the not so obvious improvement opportunities otherwise hidden in the vehicle fleet.
- Real fleet cost reduction opportunities are identified and the highest impact cost saving initiatives are prioritised for best results at a reduced cost and effort.
- Lowered risks of doing business occur with decision-making and execution being informed by data driven evidence.
- Due to margins being under severe pressure and transport contributing to a large portion of fleet dependent companies' P&L cost, a slight change in fleet cost, productivity or efficiency levels can produce a competitive advantage that makes their performance stand out in their industry.

Analytics driven fleet management is growing in importance and is now fast becoming the primary engine driving fleet productivity to the next level.

Big data helps fleet managers understand relationships that were never analysed in the past, such as employing metrics to enhance sales performance by fine-tuning vehicle routing to a granular level. Or, identifying previously unrecognised patterns for accidents by evaluating data in ways that would never have been considered in the recent past.

It creates the ability to use analytical tools to turn raw data into actionable events. This watershed development significantly impacts the entire fleet risk management function, regardless of fleet vocation and fleet size. The next generation productivity tools aggregate and correlate massive amounts of data and turn these data points into the industry's new best practices that, in turn, will evolve into the new best-in-class standards that will drive the bus and other fleet and transport dependent industries to deliver much improved, bottom line business results.

Analytics Risk Management System (ARMS) is a comprehensive analytics driven fleet management-, risk- and cost-reduction solution tailored for the bus industry, leveraging the power of data science:

- linking all fleet reports, events, all electronic transactions, telemetry and other data sources together from multiple supplier and company ERP, payroll, financial, fleet operations and administration systems into a singular, enriched and standardised data base;
- providing a per vehicle life cycle cost, cradle to grave, life to date and predicted vehicle cost, revenue, productivity, efficiency and performance view;
- interrogating and uncovering underlying patterns impacting fleet performance and risk;
- harvesting data across all elements of cost and revenue to include maintenance, fuel, tyres, telemetry, accidents, downtime, fines, licensing, revenue price and volume;
- establishing the measure of impact of underlying factors driving revenue and cost such as behaviours, logistics, routes, suppliers, policies, pricing, drivers, operations, services and staff;
- quantifying business results with impacts linked to company financial statements and the return on fleet;
- identifying opportunities for improvement, with informed and effective decision making for prioritised change initiatives;
- improving vehicle and fleet service procurement, vehicle replacement cycles, performance management, service level agreements, route planning and scheduling, accurate budgeting and forecasting as well as transport to fleet optimisation.

