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The Department of Communications and Digital Technologies Report



communications & digital technologies

Department:
Communications & Digital Technologies
REPUBLIC OF SOUTH AFRICA

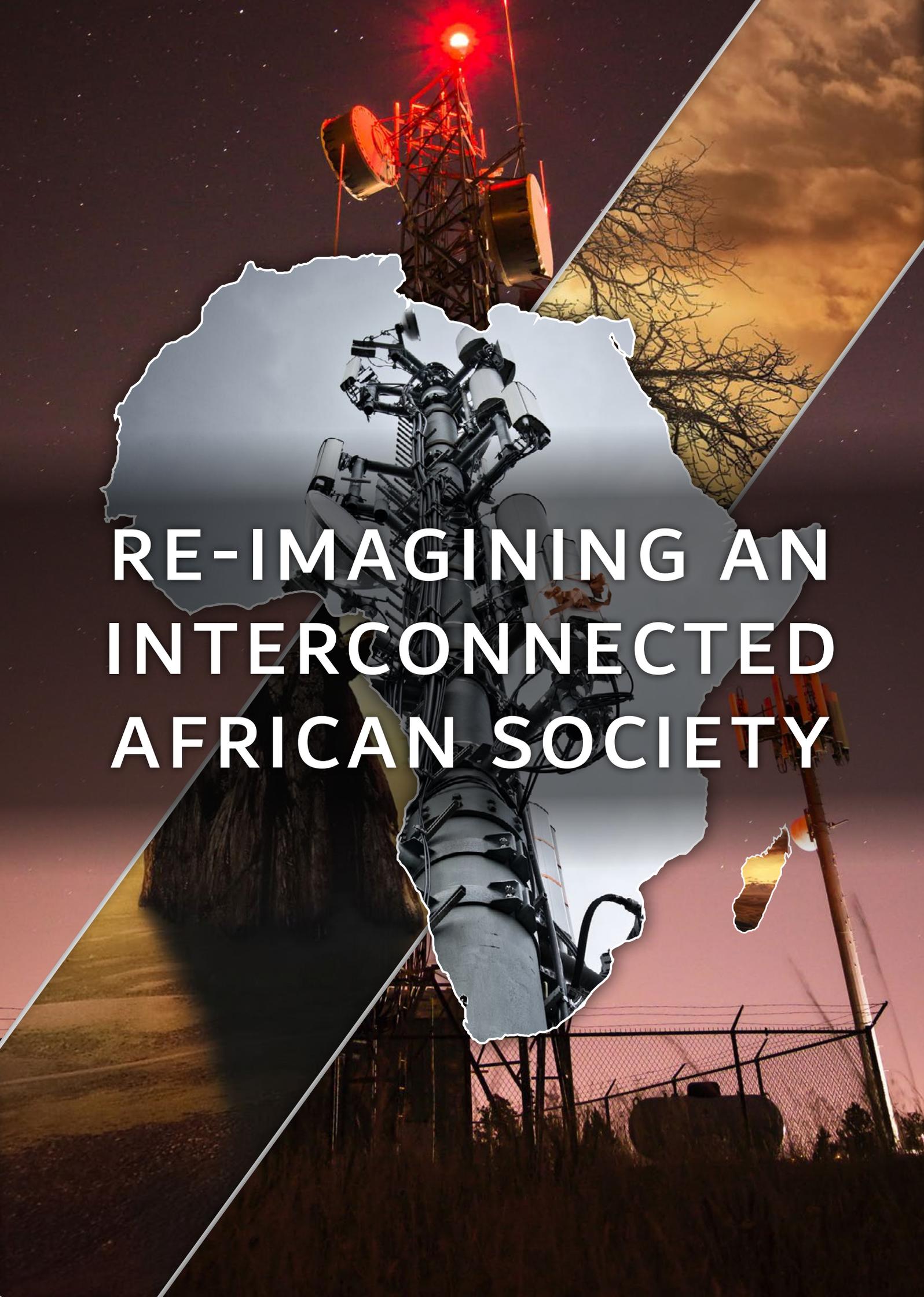
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**RE-IMAGINING AN
INTERCONNECTED
AFRICAN SOCIETY**



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Hon. Khumbudzo Ntshavheni
Minister of Communications and Digital
Technologies



Hon. Philly Mapulane

Deputy Minister of Communications and Digital
Technologies

Acting Director-General:
Ms Nonkqubela Jordan-Dyani



OUR IDENTITY -OUR LEGACY



September month in South Africa is commemorated as Heritage Month. For the department, and the sector it ushers new opportunities, as we welcome Minister Khumbudzo Ntshavheni and Deputy Minister Philly Mapulane. The new leadership comes at a time when we are near the mid-term assessment, and they bring with a wealth of knowledge of the sector and governance, in-depth experience and new strategic thinking which will be beneficial for us to achieve our vision of being a leader in enabling a connected and digitally transformed South Africa!



As leaders in act-of-service, we committed that 80% of population will have access to the internet by 2024. There has been good progress on infrastructure roll out over the past few years. South Africa performs well in global digital infrastructure indices. Urban areas are fully covered with 4G/LTE, however the challenge remains in providing 4G coverage in rural areas.

It remain therefore a challenge for the department, in partnership with SOCs and industry to ensure that equitable access to citizens, irrespective of where in South Africa you live. In doing so, we will ensure that all pocket of South Africa connected.

We also commit to reducing the cost of communication services, so that basic and core services are available to citizens. As the department, we continue to work with ICASA and the Competition Commission on assessing reduction of cost of data. The price of 1 GB has reduced by approximately 43% from R149.99 to R85.00 on average. The Department continues to monitor and encourage operators to zero-rate content for education and health websites.

The main dependency for more affordable and reduce data lies on the availability of spectrum. Hence the broadcasting migration is a crucial programme. The department is committed to finalise this migration in order to free up the spectrum, and this will be done within the timeframe announced by the President.

The switch-off is almost complete in Free-State, and work is ongoing in Northern Cape, North West and Limpopo. As capable, ethical developmental state, it requires of us to do our part to the commitments made and to ensure that we serve citizens and the country with commitment, diligence and with rapid pace.

It is through our output that we will be achieve this long-outstanding target of South Africa fully migrated. The Minister and the Deputy Minister have embarked on engagements with our SOCs and sector members, and over the next few weeks will unpack new revised plans and interventions aimed at accelerating progress on strategic targets.

I am confident that with their leadership, DCDDT will obtain its vision of being a leader in the sector and will make historical advances.

Opportunities & Challenges Faced through Connectivity in the ICT Sector



Prof. Tshilidzi Marwala
Vice-Chancellor and Principal of
the University of Johannesburg

Everyone has experienced skewed access to connectivity. I, myself, transition from high connectivity at work and at home to patchy to if not non-existent connectivity when I visit my family in Duthuni, my village in the Limpopo Province. This has been a difficult reality to navigate during the pandemic as we have all become increasingly reliant on our devices.

I have long been an advocate arguing that the Fourth Industrial Revolution (4IR) is upon us and that we need to be prepared. Whilst some view the 4IR as one which is perilous, I have contended that it brings with it great promise. The 4IR is the current transition that blurs the lines between the physical, digital and biological spheres through artificial intelligence, automation, biotechnology, nanotechnology and communication technologies.

In contrast to the first, second and third industrial revolutions, 4IR is based on the confluence of multiple developments and technologies. It is already revolutionising how we live, work, and communicate and, by virtue, is reshaping government, education, healthcare, and commerce.

As the German author, Tim Leberecht once wrote, “Philosopher and legal reformer Jeremy Bentham’s 1791 concept of the “Panopticon” — a cutting edge innovation in the design of institutional buildings that allowed one single

inspector to observe large numbers of the building population (for example, inmates, workers, patients). [...] more than two-hundred years later, we find ourselves voluntarily carrying tiny versions of Bentham’s Panopticon in our pockets.” This arguably encapsulates the power of this shift we are undergoing. According to the World Economic Forum (WEF), the 4IR could create up to 160 million new jobs.

We have already seen the impact of this to an extent through Microsoft, Amazon and the success of companies like Uber and Airbnb, for instance. At an initial glance, the number doesn’t seem all that damning.

The Independent Communications Authority of South Africa (ICASA) found that the 3G national population coverage increased to 99.8% in 2020 from 99.7% in 2019 while for the 4G/LTE coverage, it increased from 92.8% in 2019 to 96.4% in 2020. 5G population coverage sat at just 0.7% in 2020.

In the global Speedtest ranking, South Africa was placed at number 90 in 2019 and moved to position 87 in 2020 for fixed broadband with a download speed of 38.25 Mbps and upload speed of 26.3 Mbps. The mobile broadband ranking in 2019 was at number 60 and in 2020 was at number 55 with a download speed of 38.95 Mbps and an upload speed of 10.71 Mbps.



Yet, still we face seemingly insurmountable hurdles. For instance, we do not have equitable access to connectivity because of geographical location. Added to this, connectivity is also priced out of the reach of many. According to Information Technology Professionals South Africa (IITPSA), on the continent, it costs approximately 7.12% of the average income to access the internet, leaving over 2 billion people offline.

According to the 2019 Stats SA's general household survey (GHS) report, the proportion of households who have access to the internet anywhere is just at 63% nationally. As IITPSA President Thabo Mashegoane rightly asserts, "Expensive data is a threat to universal access and might contribute in disadvantaging people further.

We need an appetite for policy intervention to deal with promotion for universal access to the internet so that we don't perpetuate inequality further." Improving internet speed, lowering the cost of data and ensuring wider connectivity are just some of the immediate hurdles we have to overcome. If we get this right, the possibilities are endless.

Through 5G, for instance, surgeons will be able to use robotics to perform surgeries anywhere in the world and at any time. This was previously unimaginable. Through the pandemic, we have already witnessed the

ability of society to adapt and work remotely, harnessing the power of technology. The Presidential Commission on the 4IR has been set up to do exactly this.

The recommendations we have made include investing in human capital, establishing an AI institute, creating a platform for advanced manufacturing, securing and availing data to enable innovation, as well as incentivising 4IR industries and platforms. The other recommendations are building 4IR infrastructure, reviewing and amending legislation, and, finally, establishing a 4IR strategy implementation coordination council.

Our country needs to act decisively and boldly to ensure that we keep pace with the opportunities and developments that technological disruptions bring. We have to digitise broadcasting and release spectrum sooner rather than later. We have to allocate new spectrum to players in the market to accelerate investment into 3G technology.

This will ensure that we become active participants in the 4IR and take our place as active agents of change. Some basic steps need to be taken for us to make a giant leap forward. We also need to leap together and ensure that being in a rural area or a place with limited connectivity does not become a social exclusion barrier. ■

Reimagine How We Work, Think, Live and Play Requires Collaboration and Partnerships

At the World Economic Forum event in Rwanda in 2016 Professor Klaus Schwab introduced the seminal book the 'The Fourth Industrial Revolution'. Of everything Professor Schwab explained at the session about the advent of the fourth industrial revolution, a key take away for me was the following statement.

"We do not yet know just how the 4IR will unfold, but one thing is clear: the response to it must be integrated and comprehensive, involving all stakeholders of the global polity, from the public and private sectors to academia and civil society."

It is clear therefore that one entity cannot successfully lead this revolution, it requires commitment, clarity, will and solid collaboration. There is a joke on social media about how it was the Covid-19 pandemic and not the CIO, CEO of large companies, governments or countries that influenced the digital transformation journey.

So, like 4IR, COVID has forced us to act with a renewed sense of urgency and collaboration to reimagine how we work, study, think, live, and play. We have had to adapt to a digital way of life at a much faster pace than before.

The call for social distancing catapulted individuals, governments, and organisations into the realm of technology transformation at an exponential rate.

This has brought home the stark reality that has always been suggested by technology experts that every organisation will have to digitise sooner rather than later. I believe that if we collaborate with determination and purpose to address key issues (amongst

many) like affordability, access, and digital skills, we take a small step closer to bridging the digital divide across Africa.

Sadly, for many citizens across Africa the seamless adoption of remote healthcare, living, working, and schooling was not possible somewhat related to affordability, access, and skills amongst other factors.

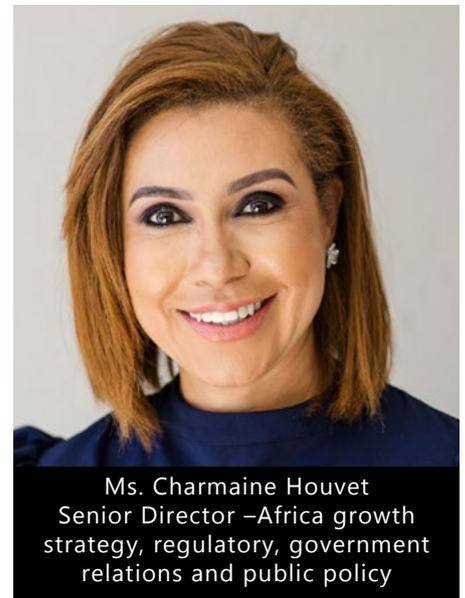
The digital divide is now more apparent during the pandemic, a time when we are all extremely reliant on technology.

A critical enabler of the digital economy is stable and reliable infrastructure which ranges from ICT networks to electricity. Meaningful participation by all citizens is required to enable a true digital economy yet digital access is currently not equally available to all citizens.

Affordability is currently a key constraint for many citizens that need to participate in the digital economy. It is disheartening to join training webinars and read chat messages indicating delegates will log off early due to lack of data.

Relief is being explored, but not quickly enough. Discussions between government and the ICT sector are ongoing regarding the release of high demand spectrum to address the high costs of ICT services.

At the height of lockdown level 5, certain technology companies made various technologies available to countries and companies globally enabling some governments and citizens to remain productive, as going digital is now a reality for many.



Ms. Charmaine Houvet
Senior Director –Africa growth strategy, regulatory, government relations and public policy

It was encouraging to see leadership being displayed during the pandemic when government and industry worked together to assign much needed high demand spectrum albeit on a temporary basis to enable the operators to provide a more dependable and improved quality of service during the pandemic.

It was also commendable to witness certain companies zero rate educational sites to enable continued learning for certain learners. But this is not enough.

Permanent solutions need to be found to address our connectivity challenges. These complex times require all stakeholders to collaborate with required deliberate intention and purpose.

We have all at some point participated in sessions and we have read numerous plans and policies drafted that are aimed at achieving visions of prosperity for citizens through digital inclusion.

Many have cautioned that we cannot be left behind for this 4IR revolution, therefore I suggest that we dust off our exceptionally well drafted plans and policies (many are still relevant) and implement these with determination.

We must work together to accelerate spectrum deployment and continue the rollout of the SA Connect initiative. We know that this is possible, we saw how the sector in collaboration with government acted with a sense of urgency and commitment to improve coordination efforts during lockdown level 5.

The continent has a youthful population and worrying unemployment's rates impacting specifically the youth and women therefore we must include Africa's youth and women in its digital adoption journey.

The National Development plan 2030 (NDP) indicates that 11 million jobs need to be created by 2030. With the growing youth population, youth unemployment is a real crisis.

Job creation cannot be the responsibility of government alone, a large portion of the current and future jobs will have to be created by SMMEs and entrepreneurs since no one entity can achieve the scale of jobs required.

Many futurists and technologists have been saying that "we are preparing students today for jobs and careers that don't even exist yet" and it is fair to say that Covid has assisted us to start to embrace and address some of the technology requirements required to prepare for jobs and other "things" of the future.

We have witnessed an increase in remote working jobs during lockdown. We need to accelerate the digital skills agenda to fill the new jobs that we are envisioning and creating, unlearning, and reskilling must form a part of the digital skills agenda.

The former Minister of Communications and Digital Technologies announced a bold and much welcomed vision to train one million SA youth in data science and related skills by 2030. A pilot project was kicked off to train youth

on data science, cloud computing, digital content production, 3D printing, drone piloting, cybersecurity, and software development.

It is vital that this programme continues and receives the support required for us to develop digital natives who will reimagine Africa's digital future and ensure the most vulnerable are not left behind. This is clearly an area where governments and businesses need to explore to develop and build the correct capabilities and skills.

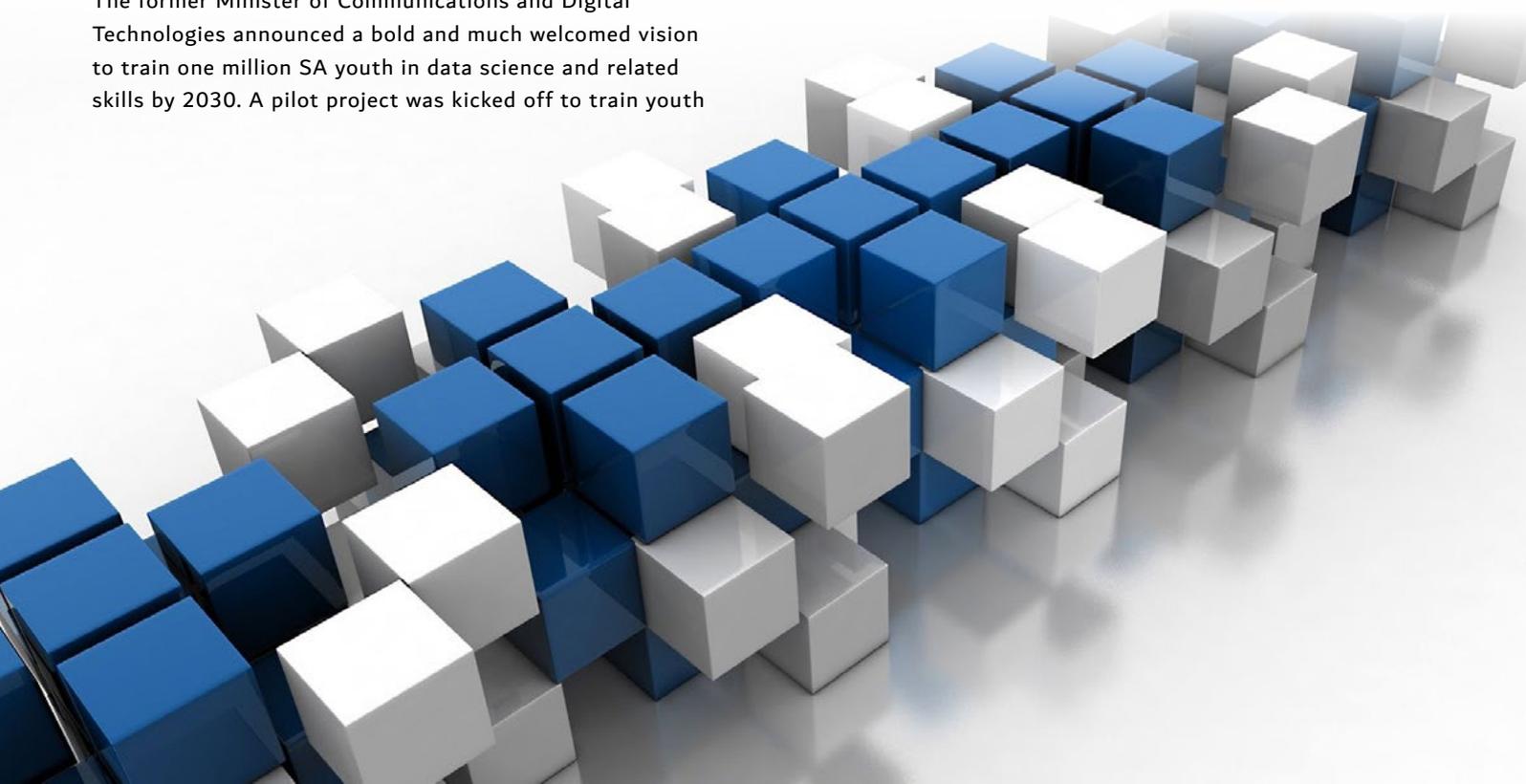
The sector needs to determine how best to define and then prioritise the numerous initiatives underway aimed at addressing skills development, placement/internship for unemployed entry level candidates and unemployed graduates.

We need an improved way to support the innovative SMME's and entrepreneurs and assist them take their solutions to market.

There must be more effective and efficient communication and take up of the opportunities available in the various incubation and innovation centres that are not always optimally utilised. We need follow through by consulting an ecosystem of stakeholders to enable improved collaboration and partnership.

There is an opportunity for us to reimagine the future and recreate ourselves through collaboration, partnerships, unlearning and relearning.

The current global disruption echoes the words of the Roman philosopher Seneca who said, "The Fates guide those who go willingly; those who do not, they drag."



Radical Economic Transformation of the ICT Sector to digitise Africa for Africans.



Mr. Leon Desmond Rolls
Founder and President of
Progressive Blacks in ICT (PBICT)

Africa, SADEC in particular is the source of power for all technologies. We have the largest mineral deposits of the raw material needed by all lithium batteries and platinum. We have the youngest population in the world meaning the future belongs to Africa.

The question one must ask is why are we largely consumers of technology more than we are producers of technology. Why is our Government spending close to R15 billion per annum if not more on foreign technologies when we are producing thousands of programmers each year.

Why are Elon Musk and Mark Shuttleworth no longer South African Citizens? I believe if we answer these questions we will build an African society that is not only connected but innovative and one that competes with the best technology producers in the world.

Let us localize our point to South Africa, our problem as South Africans is that we have the wrong people, sitting at the right table making the wrong decisions for the right people. Why do I say this, today it is a known fact that every Chief Information Officer has no vision or plan to change Microsoft as an operating system or production system.

The reality is Linux is free and has been around long enough for us to trust it more than we trust Microsoft. Open Office has been around for decades. Now can you imagine Africa migrating to Linux and Open Office, we then take the investment that we are throwing away to Microsoft each year and we build our own operating systems and applications as Africa? I use Microsoft as an example because it is one of the common applications, the same applies to every Technology including the Ubers etc.

We need Chief Information Technology Officers that think in the best interest of the Country and the Continent not just their paychecks and expensive gifts. We need Political and Government leadership that thinks along the same lines.

Let us face the fact that we live in a capitalist world where poor people are ignored no matter what. South Africa is the most unequal country in the world today. Now we want to strive for a connected Africa and a digital society but we are busy playing games with the Spectrum, there is a moratorium on the Individual Licenses, ICASA allows itself to be bullied by those that monopolise the Telecoms space.

Where is the WOAN, why is the Government not investing heavily in SA Connect so that our people can be connected and onboarded on the 4IR train? We know very well that many of our youth are unemployed and more will join them.

The faster we connect the people the quicker we get them to equip themselves with 4IR skills. The Digital divide is poison to the future that we need to build.

I want to join the many voices that say our education system is totally in shambles and we are doing very little to change it. Compared to the technologically advanced countries South African is in trouble and so is Africa. Our kids in the future will depend on other Countries to develop technology for them and they will also be users just like we are today.

I want to call this digital slavery, that is what Africa is. We must end the digital colonisation of Africa and we need to free ourselves from this by standing up and start producing our own. Africans are very creative and we have made our contribution to the digital world. We have all that we need to become one of the Technology giants in the world.

Our Governments must start listening to the majority, the small guys and the young people. We have been calling for progressive change for years in this Country within the ICT Sector but year after year nothing ever happens. I think SITA is the biggest firewall that is impeding the progress of the ICT Sector.

The reality is they have failed dismally to deliver IFMS, develop SMMEs, and ensure that Black SMMEs are the largest beneficiaries of the Sita Contracts. This is a mistake that must never be repeated by other Africans Countries.

On the other hand, you have Broadband Infracore, another state-owned entity in the ICT sector that understands a very simple thing, to build the infrastructure of the future you must work with the people and this grows the local economies.

Let me know to go into USSASA and other SOE's they are a bad lesson to be learned.

I want to believe that the entire system is populated and we are to really change things for the better, it is time to cut our losses and rethink the approach of having SOEs that are business development agencies for

big technology companies instead of them building new technologies. Maybe it's time to merge SITA with CSIR and allow CSIR to lead. Maybe it's time for SITA to focus on developing standards and must hand over the development of Government technologies to CSIR.

How is it that we are still using ancient technologies but we talk 4IR. To digitize and connect Africa we must start at home face the reality and let us lead Africa with technology development.

Having dedicated everything and all my life to this Sector I believe that we can change so many people's lives if we just do the right things and the correct way. We must focus on the people and the benefits that technology has to bring from them.

We must localise the production of technology and believe in our own innovations and support them. We are very capable of South Africa doing this. The Progressive Blacks in ICT represent more than 3000 very active and energetic people as well as SMMEs that build something daily in this Sector. We have been painted with a scarlet letter and declared radicals of the Sector.

It was radicals that changed the world. The PBICT proposes a very simple program STEAMIE (Science, Technology, Engineering, Arts, Maths, Innovations, Entrepreneurship) that must be driven by the Society, Academia, Industry, and GOVERNMENT.

We believe that within these horizontals and verticals we can build a 4IR future that prepares us to become one of the world leaders in 5IR.

The world will not change if we do not change it, the future will not be built if we do not build it today. Let us build a better future today for generations to come. Africa has been endowed with all the means to be a technology powerhouse of the world. Let us use that.



Using Technology and Modern Tools to Achieve Results by Doing Things Differently



Left: Ms. Jyothika Persadh, Right: Ms. Darshani Persadh
Co-Founders of DARJYO (PTY) LTD

At the peak of the millennium, Darshani Persadh became a Software Engineer, which led to experience in spearheading corporate strategy while working with multiple client sets.

At age 21 her corporate portfolio included the likes of **Volvo, BP, Voith** to name just a few. In the last 9 years, she chose to contribute towards teaching tertiary level Design and Technology under the **Pearson Edexcel** and **City & Guilds syllabi**.

She is now making her mark as the Technical Co-Founder of Tech Start-up **DARJYO (PTY) LTD**, specializing in digital innovation with a key focus to power today's jobs including Cloud Computing, Artificial Intelligence (AI), Data Science, Internet of Things (IoT), Blockchain, Cybersecurity and Quantum Computing. She was honoured as a **2020 Inspiring Fifty Women in STEM**

award winner, and her start-up company won the SMME/ Start-Up Influencer Brand at the **2020 Africa Brand Summit in it's first year**. Mid 2021, DARJYO won Digital Innovation Disruptor of the Year - Africa at the **MEA Markets' African Excellence** awards; following that, Darshani has earned a place as a Record Participant in the **Guinness World Records** Official Attempt for 'AI-for-India 1.0' to Build a Facial Recognition app using Python in 24Hours.

As a contributing author for a leading academic publisher, she writes strategic and focused content on digital transformation. As member of **Fortune's** Global Advisory Panel, **MIT Technology Review's** Global Panel, **Harvard Business Review's** Advisory Council and the **Forbes Women Forum**, it has granted her an opportunity to provide ground-breaking research and innovative application of technology.

Being a part of these platforms allows her to share her expertise in navigating markets and trends to a large number of aspiring and practising entrepreneurs enlightening them on how to navigate the complex terrain of Industry 4.0 by identifying the most impactful near-term technologies and understand how they can be profitably leveraged in business.

As a young woman with access to peer-to-peer networking, industry-leading tools and education, contributing thought leadership, she takes pride in knowing she is making a difference.

Simultaneously as she navigates her experiences and career aspirations, she is also in an environment that allows her to grow and connect with the best and brightest minds to bridge connections, share ideas, and trade words of encouragement.

Within a year of launching her start-up with her Co-Founder and Business Partner Jyothika Persadh, they have achieved unparalleled success.

Due to the COVID-19 pandemic and its associated consequences, women entrepreneurs have been significantly impacted and in response, some have pivoted or changed business models.

It has given all a sense of insecurity, fear and uncertainty. While the fear is justifiable, there is a need to take immediate actions and prepare ourselves better for the future. The technology domain experienced significant growth and being a newly turned Entrepreneur with a start-up just turning a year old and feeling less confident about the future of her business now than she did before the COVID-19 pandemic, she dealt with the impact by utilizing the additional time to develop new skills and pursue advanced training.

Upon entering the initial Covid-19 Lockdown in South Africa, she decided that learning and upgrading herself need not be put on hold. As one who was always teaching, she chose to be the learner this time around by utilising the additional time to develop new skills and pursue advanced training. She participated in the **Goldman Sachs 10,000 Women** to invest in her future business growth and gained valuable insight. Darshani believes that lifelong learning is the key to staying competitive and relevant.

But even with accelerated growth amid a pandemic, DARJYO's success hasn't been achieved without a fair share of challenges. Pivoting from a secure job to take "THAT RISK" 2020 recognized their tenacity and hard work in contributing towards an evolving digital disruption that continues to transform almost every aspect of their life and business.

"We are not returning to a pre-COVID world. Three years' worth of technology adoption happened in just the last year. Innovation inspires new solutions to the critical challenges affecting millions of people around the world. It also means that game-changing ideas and solutions come from anyone, anywhere, and at any time." says Darshani Persadh

IoT, Artificial intelligence (AI) and Blockchain have the potential to successfully address social and economic challenges in Africa, and DARJYO is highly persistent - beginning from scratch without the constraints of a traditionally accepted process or one singular business model.

DARJYO is using technology and modern tools to achieve results by doing things differently and have proven that they are always ready to take on challenges of varying magnitudes and find solutions for integral pain points many customers' experience.

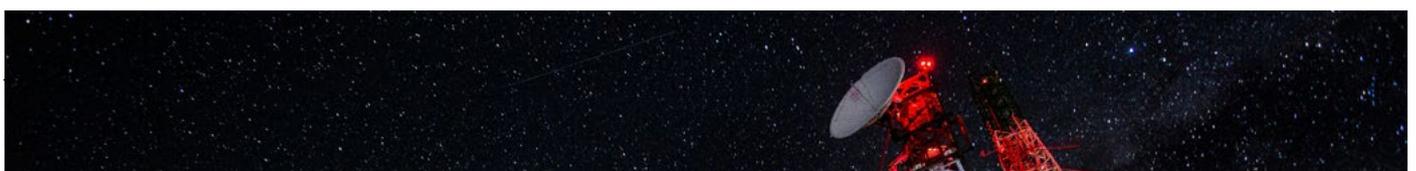
Legacy systems are just not always fast enough to accept and respond to such needs. DARJYO's ability to leverage partner technologies and solutions are transforming consumer experiences everywhere while consumer and end-user needs are continuously evolving.

DARJYO's vision of tomorrow's Africa? There is a critical global shortage of Emerging Technology professionals and workers. In the next three years, as many as 120 million workers in the world's twelve largest economies will need to be retrained or reskilled as a result of AI and intelligent automation. Africa is no exception in this regard and ranks with a high need for an Industry 4.0 skilled workforce.

With a commitment to providing guidance, resources, and tools to uncover new opportunities, they continue to scale by building cutting-edge solutions for various segments of the emerging technology market. DARJYO's contribution to this new African story would be to delve deep and provide solutions to the challenges faced to showcase the best practices and to bridge the gap.

The AI capacity in Africa in terms of the skills landscape, trained professionals, expertise, AI ecosystem and training courses that are currently offered in Africa and courses planned for the future requires a more open, inclusive and sustainable approach.

DARJYO encourages STEM in Early Education: Children should be allowed to think of technology and the potential it holds right from their formative years so that it can funnel into their crucial decision-making years later in high school.





As a young women, Darshani would like to contribute more to the African story by helping in delivering great customer and client experiences through cutting-edge platforms and digital solutions, attributing to which Technology inspires change, making a notable difference in our communities. Given their background and willingness to take risks, Darshani and her start-up DARJYO can ensure that the quality of content they avail is regionally on par with global standards.

Darshani and her Co-Founder Jyothika Persadh recently launched the **#restartCommunityCollective** Covid-19; Lockdown and if that were not enough - July 2021 saw the KZN Provincial Riots. Such a climate of change overwhelmed our local small businesses, entrepreneurs, freelancers and multi-skilled communities which acknowledge the youth for taking strides in being a better society for a brighter future - today these challenges can only be faced together. In support of change for good, Darshani and Jyothika chose to be part of the solution.

RESTART is a “**Community Collective**” Powered by **DARJYO** because Community is how we get through this... helping each other navigate - where businesses help people and people help businesses.

You could be a bread baker, teacher, weaver, consultant, carpenter, excel whiz, photographer or anything else - if you have experience and knowledge to share, join this diverse platform to make a difference. To help small business owners, entrepreneurs and the youth alike to navigate this uncertain time, the RESTART platform aims at being a curated network of resources and basic information to confront such devastation.

Simply share essential details of the following that you can provide in the form link <https://forms.gle/ZDMkgKwHGU71y3mm6> This will automatically create your profile on the platform.

This form gives DARJYO an idea of who to connect you with and will then determine what resources they can provide to best serve your business.

In two (2) years DARJYO has built traction in the international market and it aims to share the RESTART platform with the community. Your profile will help market you or your business to their Partners, Suppliers, Vendors, Distributors - all for FREE.

In compliance with the POPI Act, DARJYO takes your privacy seriously and any data they collect from this application process is held in strict confidence under their privacy terms.

With the community being a key directive for DARJYO's business philosophy, two (2) of their social goals is to achieve the sustainable development goal, with their target being to stop climate change by stopping deforestation. Climate Change is caused by greenhouse gas emissions, of which CO2 is by far the most important one.

Firstly, conserving farmlands Quembe and Pilgrim, which have been in her family for generations forming part of a vast ecosystem that sees Tree Reforestation offset CO2 emissions as a common goal to further develop. Secondly, The Sawoti Temple Restoration Project connects the community to collaboration in restoring the biodiversity structures with a cultural take on preserving Heritage by taking the legacy forward.

Green investments in biodiversity not only protect nature but also create jobs, reduce pandemics, and combat climate change. To accelerate the shift to a greener and more inclusive green economy, the government and the private sector can demonstrate how, by creating tailored solutions that help our country transition to a nature positive economy.

DARJYO's goals have been clear since the beginning; digitizing old-line industries, shaping taste and style, and building sustainability programs. In the next few weeks, they will be providing entrepreneurs and the community with access to resources that will enable them to take action, build stronger businesses, and have a positive impact on the recovering economy.

Re-transforming digital spheres into our heritage

“Built Ground-Up by Africans for World...”



Mr. Rendani Praise Ramabulana
MEng Electrical (Software Engineering), WITS Chief
Executive Office Tirisan Tech Solutions (Pty) Ltd

This article focuses on the national question of access (connectivity) as a basic need for all in Africa. The paper will list some of the challenges and opportunities on the journey to digital inclusiveness for the nation and / or continent.

Africa is no stranger to innovation and in fact, evidence shows that mathematical and scientific discoveries came thousands of years to Greek, Romans and Western populations after similar developments in Africa. Looking from the Nokcivilizations of West Africa, the Buganda [2] in the East, from the great Kongopeople of central Africa to the Mutapa Empire in the South.

The artifacts collection found in the Mapungubwe region also is evident that Africa is no stranger to innovation. Now it is time we Re-imagine the continent of Africa under a “new lens”. The African continent is faced with a huge debt (bill) from historic colonial institutional arrangements, which makes it difficult to progress as fast as other continents without similar burden.

With huge poverty numbers many countries within Africa are challenged in eradicating this decease “poverty” fast. The fiscus of nations are prioritized and designed to fight this plague, in South Africa we call it the Triple Challenge “inequality, poverty and unemployment”.

In response to fighting the plague, government departments in South Africa have put in place programmes like Indigent subsidy for the people (i.e. free basic water, free basic electricity).

In addition to these programmes, today’s era presents even more complex challenges which are that of access to digital services for all. This exacerbates the challenge in that access to digital services is no longer a luxury but rather a basic need for all. As we Re-imagine Africa the Great, let it be under the “new lens” of an Interconnected African Society.

With all challenges facing the continent, it is important to always ensure that the LENS in which one looks at the horizon is always cleaned, given a new shine to ensure that the “MIST” is not blocking the great view of the opportunities that lie ahead. These opportunities will not be automatic to the naked eye (as the naked eye is used to the world of challenge), it becomes important to put on the new lens and navigate through that.

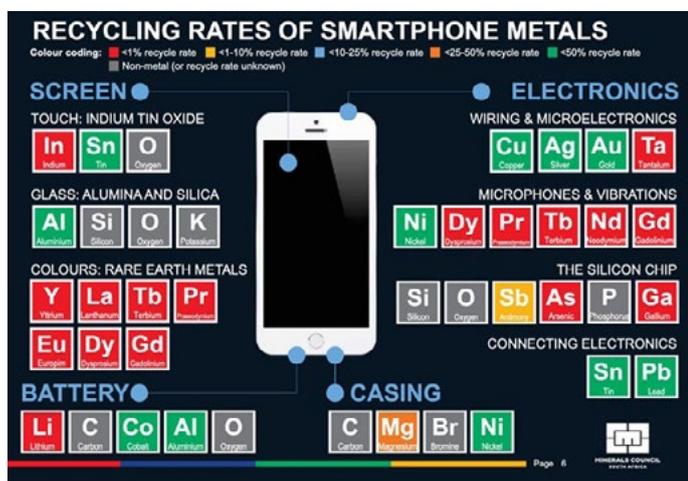
Some of the opportunities include:

Youthful continent

Africa has a large population of youth amongst its diverse countries, it is the youngest (by average age of citizens) continent. Something the Western countries do not enjoy. This alone presents limitless possibilities for the continent at large.

- Train for Work of the Future – we can train and produce many future workforces within the continent.
- Destination for Outsourcing Digital Services – other countries could outsource their future workforce requirements to an ever young and growing in skills African workforce.

Minerals power



Recycling rates of smartphone metals

Technological advancements powering the new world we live in is made possible by the minerals that lie beneath the soil of the African continent. This means that the very raw materials required to produce / build things that humanity worldwide are using are right here under our feet. Now let's Re-Imagine what possibilities exist through this natural advantage we are given.

As we move towards achieving digital inclusiveness in the African continent, the following are some of the recommendations (list not exhaustive) that can help us leapfrog into a society that has the foundations to thrive:

Zero Rating Education Platforms – there is a great need to Zero rate the education (eLearning) platforms as the biggest challenge in rapidly deploying technology to help to ensure teaching and learning takes place smoothly in a period like this is hindered by the data problem.

The priority of how the Zero rating should be handled should put an emphasis on locally developed Tech first (to directly impact on creating a growth for local tech consumption than foreign tech).

A transparent process should be put in place from DCDT to ensure a fair and just way of accrediting such platforms for Zero rate and of monitoring that no abuse from such platforms that get accredited. A central management of Zero rate can be put in place by DCDT.

TVWS – TV White Spaces should be prioritized for SMMEs and allow them to build networks in rural areas as community networks to ensure a priority is to connect schools there and also commercialize their offerings. Subsidies or friendly grants can be put in place to support SMMEs with the Infrastructure build. Funds can come from the Digital Fund / other partners like SEFA, NEF etc. Priority being SMMEs.

Enable Tech Sandboxes – We have seen that with COVID and the state of emergency the wheels of government turns quickly to introduce regulations and directive that enable us to respond quicker and allow for things to happen. An introduction of Tech Sandboxes could also help in areas where there is new processes or tech that needs to be sampled first "try first before use" without changing legislation. Sandboxes should be introduced to handle such case scenarios.

Built Ground Up by African for the World consumption – Connectivity equipment assembly should be done locally, than the current norm of importing everything. This sector can thrive if we bring some of the equipment assembling to some of our SEZ like Makhado Musina SEZ in Limpopo, which could be the hub of assembly of such equipment and a doorway into Africa via the N1.

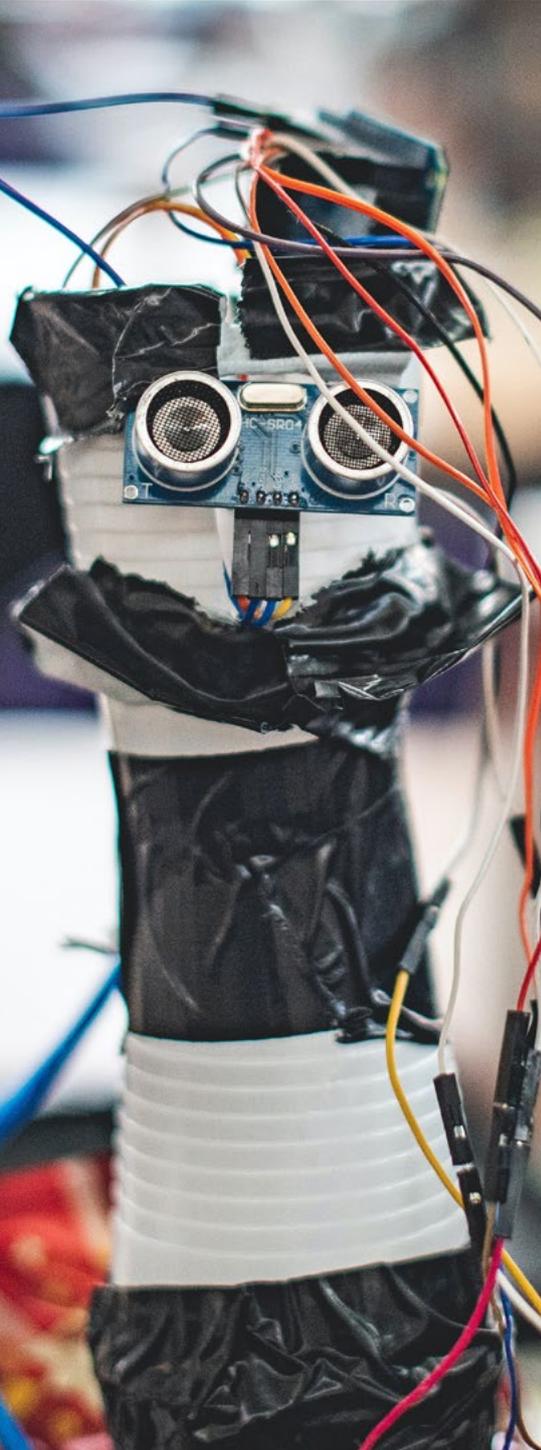
Reducing the price of CPEs (Customer Premise Equipment) would directly increase the number of sites that can be connected faster (accelerate deployment of connectivity). Let's Re- imagine all Lithium powered batteries for future Tesla cars built in such SEZs locally here and exported to the World.

The challenge of connectivity and access should not be seen as a government challenge to respond to, but each one of us should be able to do their part. As we enter into my birthday month (September) which in South Africa is also Heritage month, I would like to create a viral challenge codename #EachOneConnectOne Challenge which encourages all active citizenry who are able to, through a means of crowdsourcing start micro funding a build of these rural networks where they were born or come from.

As part of our heritage, lets through the new lens bridge that digital divide in areas we come from. Rural should be lit connectivity wise and if there could be a special connectivity subsidy programme for all those who qualify especially in Rural areas, we would begin living in that Re-imagined interconnected African Society.



Mr. Langa Zulu
Co-founder of Algorhythm Lab, Digital
Strategist & Social Entrepreneur



SCHOOLS MUST BE THE KEY DRIVERS OF 4IR GROWTH



Most people in South Africa live in townships as well as in rural areas, with little or no internet access. Findings by the World Bank, report that 60% of households now have connection to the internet as opposed to the 40% which still don't, according to a survey that was previously conducted.

These figures were postulated in 2012 following the adoption of the National Development Plan by the cabinet.

The poor have the majority of schools as compared to the well offs that lack even the most basic necessities like electricity, flushing toilets, classrooms and even skilled teachers.

As we are immersed in the Fourth Industrial Revolution(4IR) like most countries, we have to up our game in order to compete with the rest of the world.

This means we have to start at the grassroots level, which are mainly primary schools in more populated areas.

These areas lack basic resources and therefore need to be prioritised so that they could be on par with those in big cities.

Information technologist Langeni says "I normally go to schools mostly in rural areas to teach coding and we are forced to use the chalkboard with

learners writing code in their exercise books instead of using computers, which is a sad sight." He also believes that there's a need to look at the introduction of shared computers amongst schools coupled with zero-rated content or websites to provide study material to dramatically provide relevant digital learning material and content to teachers and learners in disadvantaged societies.

An approach such as this would make it easy for learners to be buddies with modern technologies and condition them to the version of digital devices and technology that is not for fun but to help them academically, as well as to empower them economically.

There is a strong indication that there is a surge in internet usage today than before with most people using mobile devices to access the internet. Network providers, as well as the easy access to modern gadgets by the public can be seen as the leading causes of many people getting connected to the world wide web.

These factors have contributed to the lowering of connectivity prices leading to a surge in most particularly amongst the youth. Data price drops across all networks have also been seen as a major contributor to the increase in internet usage. These platform specific data bundles have led to huge traffic for social media apps like Tik Tok, Facebook, YouTube etc.



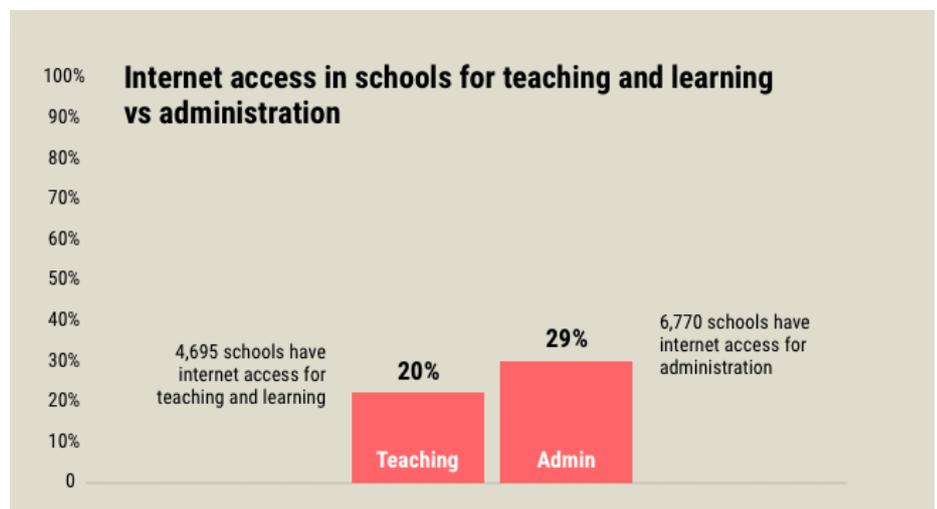
These social media platforms allow for worldwide interaction and the sharing of skills, information as well as economic trading amongst the participants. According to the National Development Plan (2012) we should realise our goals by drawing on people's energies, growing an inclusive economy, building capacities etc.

All these can be achieved through internet connectivity of a large number of the economically active population. The biggest challenge is how to address failures to digitise the majority of schools and ensure internet accessibility for all. Failure to address the 2012 resolutions is still a major handicap by the government.

With the 4IR already upon us, it is imperative that government ensures that within the next decade and beyond we equip schools with digital technology at all levels of society.

If we see schools as hubs for future preparedness and we are true to the vision of the majority of young South Africans participating in digital economy, we must radically increase access to digital connectivity in our schools as in yesterday.

According to the Niems report illustrates that 20% of public schools have access to modern technology (connected to the internet), whilst the rest are still not connected.



LACK OF SKILLED PERSONNEL CONTINUES TO BE A CHALLENGE



Mr. Thabiso Naleli
Digital Technologies Coach at
Siyafunda Community Technology
Centre

Growing up in the sprawling township of Katlehong in the Ekurhuleni Municipality, Gauteng, made Thabiso Naleli, to upscale the tough township upbringing and transcend to become a digital technology geek.

He embraced modern technology, demystifying a known myth that technology is for the rich living in suburbs. Thabiso dreamt of a life beyond his humble beginnings starting off as a Love Life volunteer and ultimately as time went by, he stumbled upon the Fourth Industrial Revolution (4IR) and his dream of owning a large techno hub in his own township started taking shape.

Naleli accomplished all of this in a subtle and powerful manner by mobilizing support from his colleagues.

"I believe young people in South Africa have lost the drive as well as the sheer resiliency that brought us power and strength to achieve political independence in 1994". said Naleli.

He also added that young people need to reimagine what our nation would have been had we dealt ruthlessly with the roots

of corruption, state capture, and treachery right from the start. Fifty eight percent of the youth in South Africa are unemployed and most have not been equipped with the right skills to survive. Then came the COVID-19 pandemic in 2020 which killed off many hopes of industrial resuscitation as it affected global businesses, adding millions to the already high unemployment challenge.

The advent of the 4IR in South Africa was seen as a golden pill to cure the ailing technology sector but a critical shortage of skilled personnel in the technology sector has hampered those efforts.

The Fourth Industrial Revolution has introduced us to new concepts like Artificial Intelligence, 5G and Blockchain to name a few, which require more capacitated professionals. Lack of skilled personnel continues to be the challenge faced by the country most particularly in the Information and Communications Technology sector. This talent gap is seen as holding back transformation as few black people get employed in the sector.

New careers have been born thanks to the 4IR. These include software development, cyber security to name a few, these careers are in high demand across the board and form part of the critical "jobs of the future".

Naleli indicated that he see's young people looking for jobs, but his question is what kind of work are the South African youth looking for?, Most people could combat the high rate of unemployment if they were to opt for being entrepreneurs or outsourcing their skills to various platforms as freelancers.

The COVID-19 pandemic has redefined the workplace altogether. We now have a 'remote economy' in where companies prefer to hire freelancers working away from the usual office environment, instead of full-time office-based workers.

These remote workers are professionals who are hired to work from home and only send in work via digital networks.

This requires companies to invest heavily in technology to enable this new norm to become a reality.

COVID-19 has also led to a change in the academic world, with the age-old face to face tuition being axed and remote learning being adopted.

Many top institutions all over the world have embraced it to curb the rapid transmission of the deadly coronavirus.

Massive Open Online Courses (MOOC) have been launched by many institutions as a solution to traditional learning. Even local universities have adopted it this new learning arrangement.

MOOCs are seen as inexpensive and only require network access and modern telecommunication gadgets for one to start.

A new phenomenon known as Micro-Credentials or nanodegrees have emerged as a key player to fast-track students to study and get mini qualifications that narrow a traditional degree or diploma to upskill anyone who is under qualified in various courses.

They are short and inexpensive as well as allow for anyone to partake in them and achieve a digital certificate or what some know as digital badges.

In efforts to bridge the technological divide, the government has embarked on a drive to reduce data costs across all networks during these trying times.

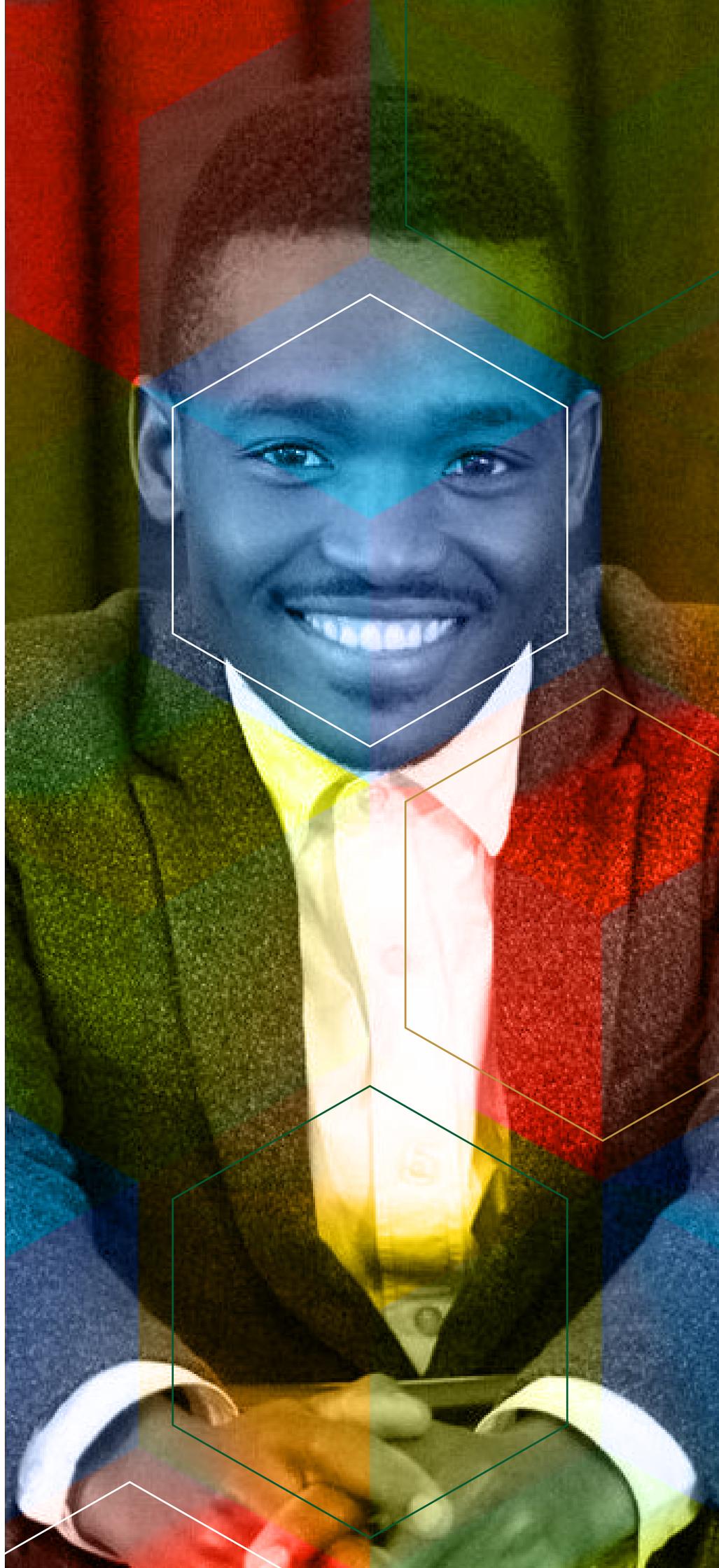
A reduction in data costs could see more people log on to communications network and try and improve their lives and enable potential students to enrol at MOOCs or e-learning websites.

The state together with network providers have initiated zero rated data packages to enable millions of unemployed youths to access learning as well as job hunting websites.

Community organisations such as Siyafunda and National Electronic Media Institute of South Africa (NEMISA) have been hard at work trying to reach the economically marginalized communities and providing with digital technology skills in capacitating young leaders for future skills such as data science, software development, robotics, etc.

Furthermore, this seeks to encourage the public sector to uplift the society with digital inclusivity and connect the unconnected, providing more women with digital skills in the ICT sector.

The government acknowledges the humane gestures by these organisations, however efforts are underway to reduce the costs of data so that everyone can surf the net and connect with the rest of the world with ease and minimal cost implications .



Interconnecting Africa through Digital Transformation



Mr. Tshega Mampshika
Co-founder of Algorhythm Lab, Digital Strategist &
Social Entrepreneur

According to linguists, Africa is home to more than 2000 different languages. This means that there are more than 2000 tribes in Africa with South Africa being home to 11 of those languages.

It is estimated that more than 12 million learners in South Africa attend public schools under the Department of Education with most of those learners learning English as their first additional language.

The above point presents a bigger challenge than imagined to interconnectivity, coding, and robotics. Our organization AlgoAtWork Robotics Academy has in the past two years dedicated itself to opening access to Technology education in the form of coding and robotics in rural areas to underprivileged learners.

From the experience, it is evident that if we want to properly grow and connect Africa we must develop and maintain software at different levels using our native languages.

There are levels of development of Software tools which we believe that our country especially the Science and Technology department should keep in mind when financing computer sciences and technology-related research in higher institutions of learning and other government agencies such as The Council for Scientific and Industrial Research:

- Development of Coding Languages: Through our Digital

Roadshows and tours to public schools, we constantly try to convey technology education through native languages (isiZulu, Sepedi, Setswana etc.). We have realized that coding languages themselves are originally written in languages that African learners struggle to grasp and recognize.

Explaining words such as function, integer, boolean, becomes a task since these are not words often used. What is an integer in isiZulu, Sepedi, or Setswana?

- Development of Software: We need to radically address the tools to programme these new coding languages, referred to as Integrated Development Environments: One of the largest challenges faced is the difficulty of understanding development environments.

We have thousands of development environments. The environments currently available do not support African languages. Learners we have taught had to scramble through words and meanings on the platform.

- Development of Technology Education Content in African languages: As a continent, we constantly discuss the difficulties of passing on and preserving our languages.

We continue to pay attention to the greater need of developing our languages and translating terms and words in medicine, biology, chemistry, and economy so we can open a wider participation of our people in the economy. We should not lose this chance once again to translate coding, robotics, and other technological terms to our African languages.

In our discussion about interconnectivity, our debate as a country should be do, we want to discuss connectivity, participation as an end-user and consumer or do we want to discuss it as possible producers and contributors.

The answer to those questions, will determine what economic and technological trajectory we take and what sort of opportunities we will be able to create within future economies.

NO CONNECTIVITY IN AFRICA WITHOUT THE FOURTH INDUSTRIAL REVOLUTION



Mr. Luyanda Mbalana
Website Developer

Luyanda Mbalana is one of many digital creatives and geniuses who are testimony to South Africa being a hub of capable innovators who will set the country ready for 4IR. Born in the year 2000 in the rural outskirts of Matatiele, Eastern Cape, Mbalana always had a dream of owning and manufacturing modern gadgets.

"I've always been curious about the television world, how it works and later wanted to build similar inventions to it. This was just a dream of a black child in a rural environment, seeking information, but not knowing where to start," said Mbalana.

He also added that as society is fast evolving with the use of modern technologies and a better roll-out of broadband in Africa, opportunities for young people especially innovators are endless.

Despite coming from a disadvantaged background, the self-taught geek started learning coding through reading books as well as surfing the internet at school. Now a Mthatha based entrepreneur and co-founder of an ICT business, LTI Tech Group Ltd, an establishment that also renders coding lessons at the University of Johannesburg. Additional to this, Mbalana is also an ambassador of the National Youth ICT Council.

Globally Most people all over the world are now connected to the internet through modern communication gadgets like mobile phones as well as computers. These require connectivity which comes in

the form of data provided by various network providers. The advent of the Fourth Industrial Revolution(4IR) paved a way for the growth of modern digital communications through the usage of mobile telecommunication tools which enable people to connect effortlessly across borders of the world.

This new technology drive has also driven the unprecedented growth of broadband usage, use of drones, lasers, and satellite balloons. It has become evident that without connectivity, there would not be any Fourth Industrial Revolution (4IR). Both opportunities and challenges are endless.

One of the biggest problems facing our country is network coverage, which is rather unstable in most areas of the country more especially rural areas. Better network coverage will enable people to connect easily and further than before.

In rural areas like Mthatha and other neighbouring communities, network connectivity is reported to be a challenge, hence affecting people's lives.

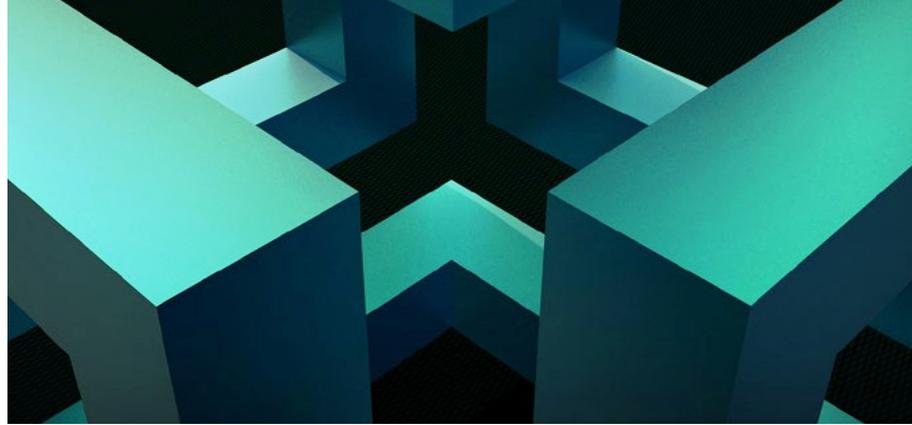
Mbalana has made a call to young people to wake up and grab all available opportunities as the world is a marketplace for digital goods and services. Young people need to know that there is a high demand for ICT start-ups and working together we can eliminate poverty and reduce inequality by 2030.

**“Africa will write its own history
and it will be in the north and
south of the Sahara, a history of
glory and dignity”.**

- Mr. Patrice Emery Lumumba



Entity News



NEMISA assists the Eastern Cape government in the launching of their Digital Virtual Hub.



The National Electronic Media Institute of South Africa (NEMISA) CEO Trevor Rammitlwa has offered expertise of the institution in efforts of bridging the digital divide in the Eastern Cape. Rammitlwa was addressing the Eastern Cape Premier Oscar Mabuyane, local mayors and other government officials, during the launch of the Microsoft Digital Virtual Innovation Hub, in Komani Eastern Cape this month.

The Hub is an initiative by the Eastern Cape office of the Premier, Microsoft, the Eastern Cape Socio-Economic Consultative Council and NEMISA through its Walter Sisulu University-based CoLab. The project, which will be rolled-out throughout district municipalities in the Eastern Cape targets young people and SMEs through a basket of digital skills programmes ranging from basic digital literacy to courses specialised 4IR technologies.

Talking at the launch Rammitlwa said that the institution was a willing and capable partner to assist the with Eastern Cape local government in the roll-out of digital skills. “NEMISA would like to be part of this journey and to support the

learning initiatives that will be undertaken all the way, for the Eastern Cape to develop and to grow. This is aligned with South Africa’s Reconstruction and Economic recovery plan and the National Digital and Future Skills Strategy”.

He said that such partnerships are of colossal importance and should strive to making sure that there is no barrier that will exist for anyone in the Eastern Cape which will prevent them to access opportunities.

Rammitlwa added that: “As NEMISA together with the NEMISA Eastern Cape CoLab we will avail ourselves to offer leaner support in the various regions, using relevant learning tools and gadgets to enable access to learning and including building partnerships with municipalities for this purpose. Where applicable facilities should be availed especially where there are computer laboratories for young people to access since many of them do not have gadgets and may be challenged to access to online learning”.

NEMISA training of some Chris Hani District youths on the day of the launch in Data Analysis at the Hub as part of an exhibition.

One of the beneficiaries Zimkhitha Siyali, who is unemployed said that when she became aware of the training she never hesitated to enrol.

“First I am unemployed and secondly anything that has to do with improving my skills and learning further is a must, because it will benefit me at the end.

This is also about building my profile and putting myself out there and eventually accessing opportunities.

This training in Data Analysis is assisting us a lot because some of us do not have computer backgrounds and some of us are not computer literate,” she said.

Also talking at the event, NEMISA Eastern Cape CoLab Director Sibukele Gumbo shared information on the

CoLab’s footprint in conducting digital skills training workshops throughout the province.

“In the past 12-months, we have delivered about 130 digital skills workshops throughout the Eastern Cape. This partnership and launch event is very important because it will expand the work to more beneficiaries and brings more stakeholders to work together in order to skill the Eastern Cape province,” Gumbo said.

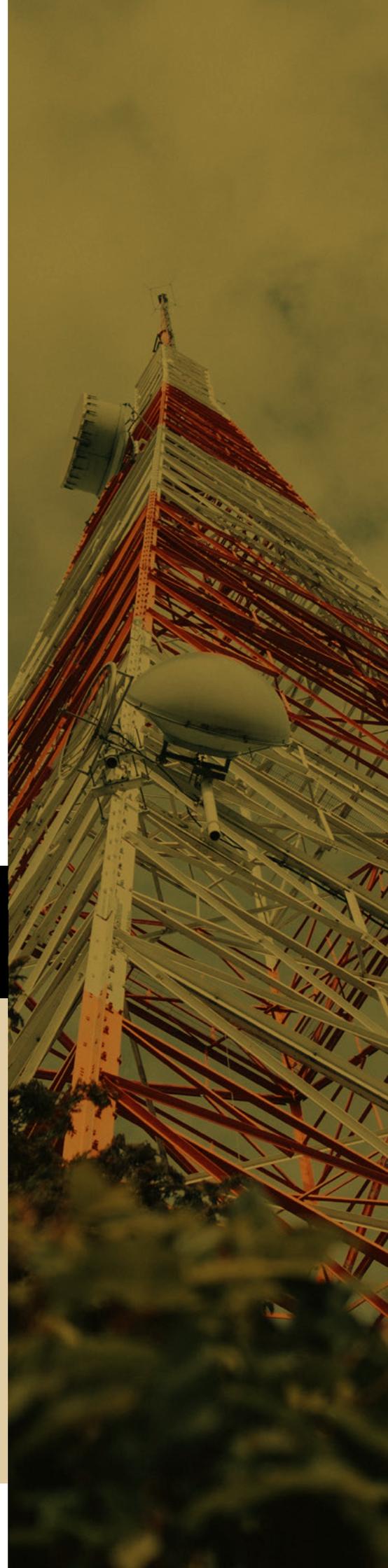


“NEMISA is calling on all practitioners in the Digital Skills and Data Science disciplines to submit papers for the NEMISA Digital Skills Summit 2022”

The NEMISA 2022 Colloquium and Summit on “The Future of Work and Digital Skills 2022” seek to bring together government, international organisations, academia, industry, organised labour and civil society to deliberate on how these changes are occurring in South Africa, how fast they are occurring and what needs to change in order to prepare society for the changes.

We invite you to submit your full research papers, practitioner ideas, data, research and case studies to the summit and colloquium in the following tracks and topics:

- a. The future of work in the 4IR.
 - b. Re-skilling and up-skilling within the 4IR.
 - c. Democratising data science.
 - d. Microcredentials.
 - e. Life-long and life-wide learning in the 4IR.
 - f. The sharing economy.
 - g. Digital skills in Artificial intelligence, Blockchain and other 4IR technologies
- Interested parties can visit the NEMISA website www.nemisa.co.za for more information on how to submit your papers.





JOIN THE CAPABLE 4IR ARMY

The Department of Communications and Digital Technologies in partnership with NEMISA, Coursera and Microsoft are offering eLearning training via online Platforms in the following fields:

DIGITAL LITERACY
DATA SCIENCE
ANALYTICS and
MACHINE LEARNING

To apply, please follow the link below, or use the QR Code:
Fill in the form and we will process the applications and send further information to successful applicants.

<https://forms.office.com/r/W3Fddbbsniy>



Please Note: We will not be providing DATA or DEVICES. You will need to have your own internet access.

Courses will be available from
1 August 2021 to 31 December 2021



Inheriting the Future: From analogue signal distribution to a multimedia platform and 5G with SENTECH

Rarely does an entity successfully evolve through the ages, but SENTECH has managed to morph into different forms through its decades of existence.

SENTECH started its life as a technical division in the South African Broadcasting Corporate (SABC). The original purpose of the Panorama Monitoring station (now SENTECH) was to monitor Radio Zeesen in Germany and the British Broadcasting Corporation (BBC), to gain information about the war clouds looming before World War 2. This highlights the importance of information to survival and the role telecommunications and broadcasting plays in the defence and protection of a country

It then evolved into a radio receiving station whose main purpose was the monitoring of every radio station from Shortwave Radio, Medium Frequency to highest HF (High Frequency) frequencies. Satellite communications were very limited, there were no digital satellite television, DTH or cell phones, a time long before the Internet, and people relied on shortwave broadcasts. And signal distribution. In the late 1980s, before, it became a standalone entity, the division was known as Transmitter Engineering Department, at SABC. What is now come to be known as SENTECH STP (Sender

Technology Park) used to be part of a bigger compound of the division, it was then called Panorama Monitoring Station. The premises stretched for kilometres, and the whole area was covered with huge HF receiving antennas. The Engineering Workshop at SENTECH STP is one of the oldest remaining building, it was built in 1933, before SENTECH or SABC existed. The building housed a radio station, which led to the naming of the suburb, Radiokop, in which the SENTECH head office still sits.

When in the late 1980s changes were made to the broadcasting policy, regulations opened the door for the other broadcasting players to enter the market.

Due to the broadcasting infrastructure that had been established nationally, the SABC was the natural choice to provide signal distribution services to the broadcasting industry. This did however introduce conflict of interest as new broadcasters were now reliant on their competitor (the national broadcaster) to provide them with services.

In order to promote a competitive broadcasting industry, in 1992 the signal distribution division, Transmitter Engineering Department, of the SABC was separated from the SABC and established as a separate state-owned company, which we know today as SENTECH.

Within a few years after the establishment of SENTECH, the first commercial free to air broadcaster launched its services. SENTECH was mandated to be a non-discriminatory common carrier to the broadcasting industry, providing signal distribution services to the three tiers of broadcasters (Public, Commercial and Community) across its platforms which now also included satellite broadcasting.

SENTECH Today

SENTECH has refocused its strategy in the last few years to focus expansion of the business offerings in content and multimedia offerings across traditional and non-traditional content consumption platforms.

Digital Broadcasting

In the early 2000s, the global broadcasting industry had started deliberations on the digitalisation of terrestrial television services that resulted in the identification and allocation of broadcasting spectrum to digital terrestrial television service in 2006 during the International Telecommunication Union (ITU) Regional Radio Conference in Geneva (GE-06).

In 2006, SENTECH started technical trials with the first-generation European digital terrestrial television standard (DVB-T) that had seen commercial services launched in Europe in the early 2000s. The second-generation standard was also in development and presented an opportunity for the country to leapfrog into the latest broadcasting technology available.

Following extended investigation and research, the country adopted the second-generation standard as the national standard for terrestrial television broadcasting and SENTECH was mandated by government to conduct the national rollout of digital terrestrial television which started in 2011 and was concluded in 2015 and has been operating commercially ever since.

During this time, the digitalisation of Radio services was starting to be discussed and numerous trials have been concluded, with the expected launch of digital sound broadcasting services in 2021/22.

Streaming

SENTECH now offers streaming services and solutions under the umbrella of the SENTECH.tv platform. The company live streams conferences and webinars where presenters and panellists are able to participate remotely while the audience also joins remotely (watching via a dedicated website / app for the event and / or other social media platforms).

The Sentech education streaming platform hosts video lessons based on the curriculum, backed by the ability to stream live classes delivered by teachers or trained professionals with the ability to offer interactivity where learners in classes are able to ask questions to the remote facilitator.

These live lessons can be saved and made available for later consumption as Video On Demand, offering content owners / producers and broadcasters platforms enabling them to stream their content online. This could be

a radio station, TV station or a catalogue of content that is consumed on an on-demand basis.



Smart cities with 5G

SENTECH's fully fledged "Real" 5G sites went live at its main campus in Radiokop and at NASREC, South West of Johannesburg in 2020.

"Really cool" 5G relies on 5G New Radio (NR) and 5G Standalone (SA) architecture. 5G NR is a new radio access technology that came to effect end of 2017, with large scale commercial deployments starting towards the end of 2019.

It is expected to have lower cost, better efficiency, and to assist development of new use cases, supporting forth industrial revolution technologies and developments – big data, IoT, cloud computing, autonomous factory and mine operations, robotics and automotive. SENTECH's 5G initiative is the next big thing for South Africa Connect initiatives.

Looking at how SENTECH has evolved from a monitoring station to a fully-fledged multimedia and content distribution platform, the ability to be agile and understand what the environment needs is critical for survival of organisations and economy.

Sentech continues to support the content production industry and ensures services are delivered to consumers across multiple access mediums.



WE'RE ALL CONNECTED.

WHY HARMONISING CONTENT REGULATION IN AFRICA IS ESSENTIAL



Chief Operations Officer from the FPB, Ms. Abongile Masele, addresses the delegates attending the Harmonisation of Content Regulation in Africa Conference about the imperative for a synergised approach.

The Covid-19 pandemic has proven just how connected the world has become. In a matter of weeks in 2020 a relatively unknown city in China became a household name everywhere.

Fake news about the pandemic spread equally rapidly through our borderless global village, spurring governments into action to filter the bogus from the true and to counter false information in the quest to keep citizens safe. This raises the important question about how nations can work together to align ICT Governance systems and in particular, content regulation systems.

A project spearheaded by the Film and Publication Board (FPB) with a few like-minded content regulators in Africa seeks to address exactly this question.

Harmonisation of Content Regulation in Africa aims to create a synergised, common framework for regulating content distribution so that citizens of the continent are protected from harmful content and governments can enhance social cohesion.

The initiative kicked off with a Think Tank in 2019, hosted by the FPB and supported by content regulation counterparts in Kenya, Nigeria, eSwatini, Lesotho and Malawi.

An Interim Steering Committee was constituted to take the work towards this goal forward, culminating in a Conference in March 2021 where the Committee expanded the discussion to content creators, content distributors, civil society organisations and the youth.

The Conference was opened by the former Deputy Minister of Communications and Digital Technologies, Ms. Pinky Kekana, who urged country regulators to leverage the African Continental Free Trade Area (AfCFTA) Agreement on behalf of the sectors they regulate. Ms Kekana affirms: **"it is now an urgent necessity to create a market for African content using various collaborative forums and mechanisms, ensuring that content is part of the Trade agenda of Africa, with a special focus on how content will be treated under the AfCFTA."**

A harmonised approach and aligned content rating frameworks would increase the ease of doing business in Africa for content distributors to access markets in African countries.

Delegates attending the conference virtually weighed in on the debate over a two-day period. Stakeholders from Google Africa, TikTok Middle East and North Africa, Discover Digital, Showmax and Interactive Entertainment SA made recommendations.

A Youth Voices panel comprising of aspiring filmmakers, intern content regulators and an upcoming social media lawyer had an opportunity to provide a youth perspective.

Individual country regulators align their content classification and rating systems to the prevailing laws and cultural norms in their respective countries, however the speed with which the digital world has made inroads into the consumption of media and entertainment now requires a more unified approach.

Chief Operations Officer at the Film and Publication Board, Ms. Abongile Mashele, says: **"Massive volumes of content can now be accessed by consumers unfiltered online at the push of a button. This poses challenges linked to the potential harm that unsuitable content can have on vulnerable consumers such as children."**

This potential threat from unregulated online content contains within it the latent seeds for destabilization of society through elements such as hate speech and incitement to violence. A concrete example is the recent spate of violence against the LGBTQIA+ community – spurred on by inflammatory posts on social media.

Regulators from Kenya, Malawi, Nigeria, eSwatini and South Africa shared the imperatives and frameworks that underpin their regulations. Nuanced differences in these varied regulatory systems are based in the laws of each country, which in turn reflects the social norms and values of each society.

For example, while some countries are more accepting of sexual content others have stricter rules that govern content of this nature. Regulators were clear that while harmonising ratings frameworks and aligning systems are the goal in areas of commonality, the laws of the country would always take precedence in areas where regulations diverge significantly based on cultural differences.

Digital platforms have become a prime breeding ground for child grooming and circulation of Child Sexual Abuse Material, commonly known as child pornography, by syndicates that operate across national boundaries. It likewise poses the risk of destabilising social cohesion through content that contains hate speech or incitement to violence.

For society to derive the highest good from the opportunities that the digital space provides, it is essential that the negative aspects are mitigated through content regulation.

The following key lessons from the Conference were elevated by the Harmonization of Content Regulation in Africa Steering Committee:

- Lobbying economic blocks for more countries to join the Harmonisation journey;

- Continuing the process to align the ratings frameworks of additional African countries that join, expanding the Harmonisation Matrix;

- Benchmarking best practices in the use of technologies to improve the agility of content regulators in serving the entertainment sector;

- Using Film Festivals as a common platform to engage the content creation and distribution value chain;

- Promoting local content creation and audience development;

- Giving the youth a voice by including them in all future Harmonisation engagements;

- Conducting joint digital literacy and cyber safety education campaigns;

- Linking in-country Child Sexual Abuse Material reporting hotlines to international hotline networks

- Sharing research agenda and findings amongst participating countries to assist in improving agility of processes used by the regulatory bodies; and

- Creating economies of scale through joint regular training of staff

Harmonisation across a continent with divergent human rights laws, diverse cultures, and differences in the treatment of content consumption is challenging but African countries all share the common thread of protecting and nurturing the Africa child.

This remains central to the work of harmonising content regulation in Africa.



A spirited debate on the Youth Voices panel was facilitated by South African media personality, Ms. Nzinga Qunta (third from left). The youth were represented by (from left) Refiloe Mokoena (film student); Ms Puleng Lephohi (FPB Intern); Ms. Zintle Ngwenya (graduate filmmaker); Mr. Dalphia Mojela (graduate filmmaker); and Ms. Lerato Ntwampe (social media lawyer).

SITA DIGITAL TRANSFORMATION: POSITIONING TO BE IN SERVICE TO THE PUBLIC SECTOR



MR LUCAS MOGASHOA
EXECUTIVE: CORPORATE AND
DIGITAL STRATEGY AT SITA

The case for digitisation – which has the ability to change society and foster greater social and economic inclusion – across all industries and sectors has long been made in South Africa.

The State Information Technology Agency (SITA) is aware of the pressing need for economic transformation and job creation in South Africa, and digitally transforming our society will help ignite this much-needed growth. Research by McKinsey & Company indicates that South Africa has the ability to reignite its growth and create jobs through increased digitisation and a faster pace of technology implementation.

With this in mind, SITA is working towards digitally transforming government to improve operational efficiencies. To drive South Africa into the era of the Fourth Industrial Revolution (4IR), and to facilitate the establishment of a digital economy, the Department of Communications and Digital Technologies is leading the process for SITA to be repurposed.

This transformation journey will include proposed legislative changes to the agency's mandate, which may include its repositioning as

a state digital services company, working alongside a state digital infrastructure company to ensure much-needed, new calibre of IT services to the government. The impetus in the national development drive is to unlock digital levers for government departments in this 4IR era. A key focus area is that SITA unlocks access to funds for capitalisation programmes. SITA remains a self-funded national public entity.

SITA's vision is to access new avenues of funding to improve its services and functioning through improved and modern infrastructure, cybersecurity and skilled resources. Within this value chain, business continuity, relevance of services and secure infrastructure will improve service delivery to citizens.

Within the SITA digital transformation roadmap, the organisational positioning of SITA as an IT hub of service excellence will serve it well – a solutions-oriented, tech-savvy hub of innovation with a digitally upskilled team that will provide quality services to the public sector.

The focus of the agency will be shifted from just the procurement of IT services and products for the government to the development of IT solutions in partnership with industry, citizens with relevant skills and academia. The citizen experience of government services will be improved by new government IT systems, and the procurement and supply of transversal systems.

The agency is focussed on enhancing its research and innovation capabilities as key to digital transformation, and believes collaboration across the sector is essential to addressing the complex challenges in South Africa.

The agency also continues to build partnerships with service providers, universities, research institutions and funding agencies to develop and implement innovative solutions and extend its skills base.

The core focus is to partner with all key stakeholders such as SMMEs, the unemployed, Original Equipment Manufacturers (OEM/OSM), academia and other State Entities to develop and implement local solutions.

As part of its repositioning for the future, SITA is making significant investment in upskilling employees, developing new talent and creating a digital and ethical culture across all levels of the agency, despite the challenges ushered in through Covid-19.

The agency is also working to ensure that infrastructure is 4IR ready and that all services and solutions function within a secure environment. Key areas of focus in the current financial year are cybersecurity, e-government solutions, research and innovation, localisation, procurement transformation, and customer-centricity.

SITA's digital transformation vision and agenda is to create products and services that support the mandates of government departments and the needs of citizens.

SITA has placed a strong emphasis on five strategic programmes that are inherent to its digital transformation journey: thought leadership that is aligned to service delivery; digital infrastructure development and growth; investment into skills and related capabilities; financial sustainability; and procurement and industry transformation.

As much as we are improving our capacity to provide ICT solutions to the public sector, the efficient and ethical procurement of certain ICT services and products remains vital. Part of the changes in our procurement processes will see the maturation of automated systems and other platforms to release more resources (i.e. time and money) for investment in service delivery improvement initiatives.

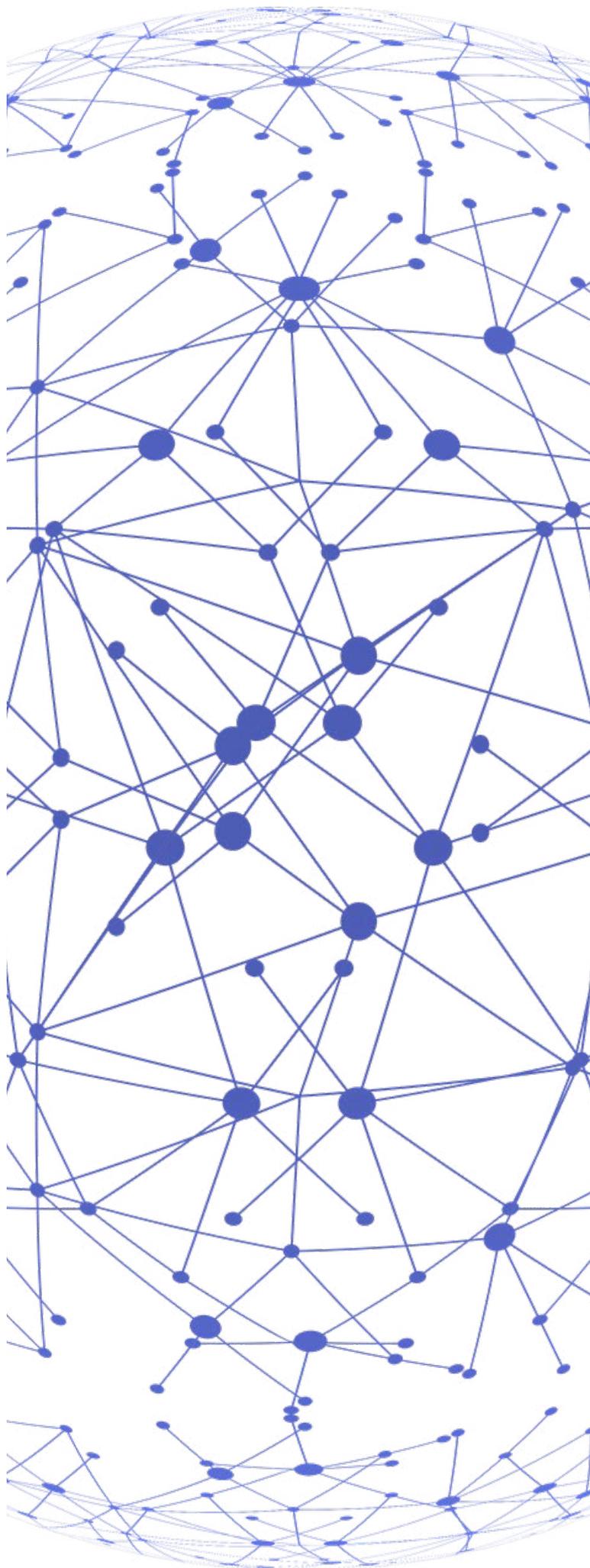
Currently SITA's preferential procurement enablers include channelling 40% of its influenceable supply chain spending to emerging suppliers and other preferred groups, including black-owned businesses, women, the youth, and people with disabilities. Fair, equitable, transparent and cost-effective procurement services aid sector transformation, stimulate economic growth and job creation.

SITA is also placing customer-centricity at the core of its business. Collaboration throughout the ICT sector, as well as evidence of improved service delivery, will ensure that government departments regard the agency as a valuable resource for their IT requirements rather than an obligatory requirement in the procurement process for IT goods and services.

Furthermore, an in-depth understanding of its customers' (public sector) businesses – while providing the government with relevant, reliable and cost-effective solutions – is key to ensuring improved service delivery. The different strata of government have different challenges and experiences, and therefore dedicated teams of cross-functional experts will be positioned to scope, address and deal with challenges faced by the government.

Another key area to address is the legacy IT systems used in the public sector, in terms of both infrastructure and applications. Focus will be given to modernising these systems and ensuring that those that have not been renewed can integrate well with newer solutions.

A culture of innovation and digital transformation within SITA, aligned with the will to stand firm on programme implementation and raise the standard of public sector service delivery, will take South Africa to greater heights. All these can be achieved in collaboration with our stakeholders.



The .ZA Domain Name Authority issues the RFI for .za commercial SLDs

South Africa's regulator for the .za namespace, the .ZA Domain Name Authority (ZADNA), whose mandate is to administer and manage the .za namespace, has issued a Request For Information (RFI) for the provision of Registry services for co.za, web.za, net.za, org.za Second-Level Domains (SLDs).

The Authority issues the RFI as the first step of many crucial steps that it is embarking on to ensure that the appointment of the next Registry Service provider is a fair, transparent, and competitive process open to all interested parties.

This process will enable ZADNA to solicit information from service providers and allow interested parties to respond to the call to provide Registry services.

The RFI calls for qualified Service Providers within the ICT sector to provide information for the management and administration of Second-Level Domains (SLDs) and the Registry Databases for co.za, web.za, net.za and org.za.

Respondents are requested to submit their response no later than 12h00 (South African Standard Time) on Monday, 13 September 2021.

Further details on the RFI and a high-level Registry scope of work can be obtained from the ZADNA's website <https://www.zadna.org.za/content/page/tenders/>



NOTICE BOARD

Bereavements:

As the country (globe) navigates through the difficulty that has been brought by the COVID-19 pandemic, we also pay homage to members of our ICT and Broadcasting community, who have sadly departed in the past month. We will always remember and honour them for their sterling contribution and mark they have made. May they rest in everlasting peace.

MAY THE FOLLOWING SOLDIERS SOULS CONTINUE RESTING IN PEACE:



Mr Lucky Mochalibane

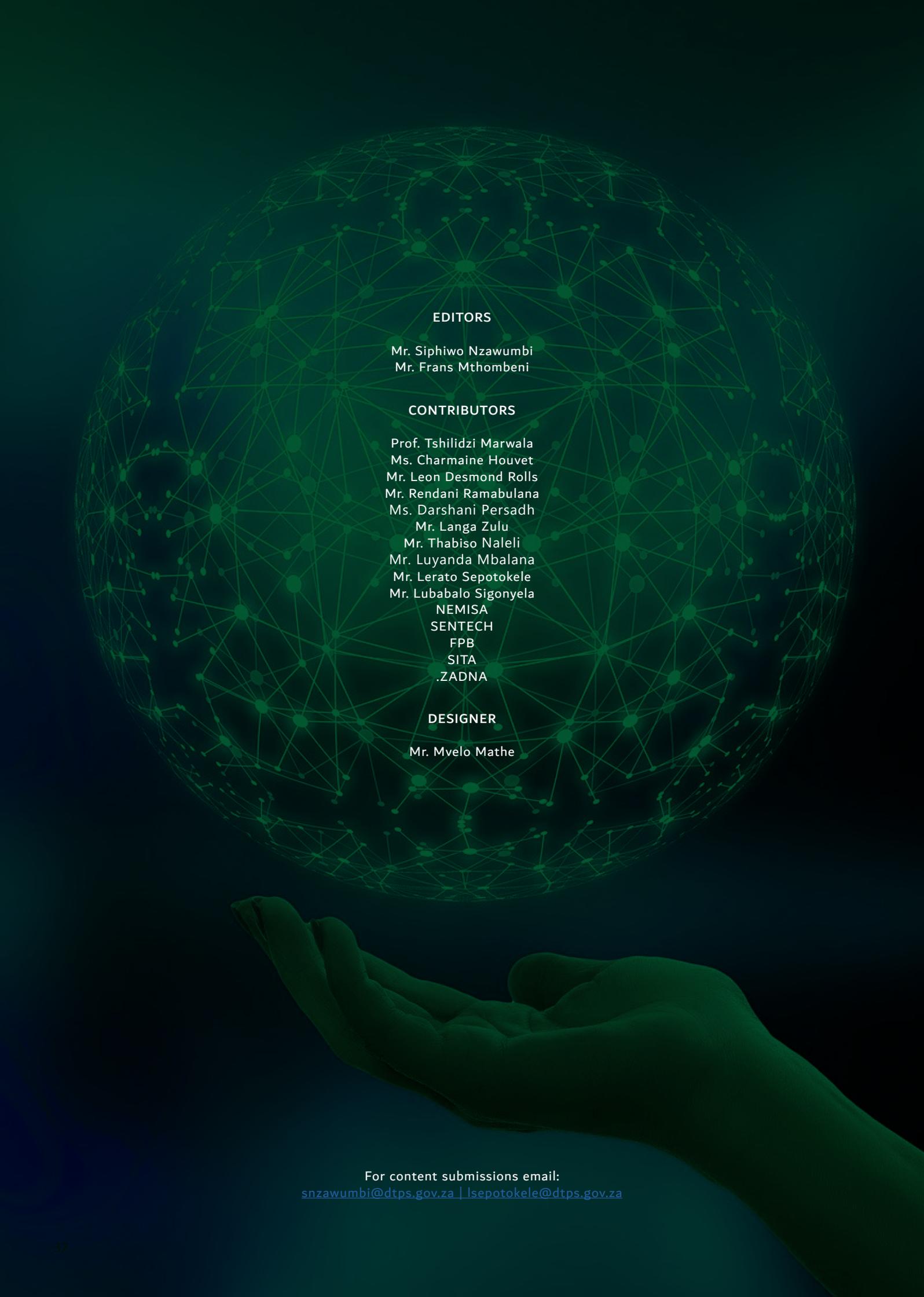


*Mr Pakamile 'Paki'
Pongwana*



Ms Portia Gwangwa





EDITORS

Mr. Sipiwo Nzawumbi
Mr. Frans Mthombeni

CONTRIBUTORS

Prof. Tshilidzi Marwala
Ms. Charmaine Houvet
Mr. Leon Desmond Rolls
Mr. Rendani Ramabulana
Ms. Darshani Persadh
Mr. Langa Zulu
Mr. Thabiso Naleli
Mr. Luyanda Mbalana
Mr. Lerato Sepotokele
Mr. Lubabalo Sigonyela

NEMISA
SENTECH

FPB
SITA
.ZADNA

DESIGNER

Mr. Mvelo Mathe

For content submissions email:
snzawumbi@dtps.gov.za | lsepotokele@dtps.gov.za

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