

"OUR FUTURE IS NOW!"

Our industry builds tomorrow's future, turning dreams into reality daily. Engineering impacts directly on people's lives making clean water possible, providing reliable energy, safe transport, fast communications, life-saving medical equipment and the transport of food and supplies – all rely on engineering solutions to make the world a safer, more comfortable, and exciting place to be. I am proud and blessed to be an Engineer!

Ladies and Gentlemen, our honourable guests from the media and CESA affiliates, I welcome you here this morning to share the 2018 Presidential address for Consulting Engineers South Africa (CESA). I am humbled and privileged to be the voice of all my colleagues in the consulting engineering industry.

In formulating a theme for this year, I started to unpack what could possibly help change the volatile, uncertain, complex, corrupt, and ambiguous world we live in. One can only imagine a world with no boundaries, no walls being put up, continuous learning from each other, consideration, collaboration, a world free of bias, with mutual respect for people from all countries regardless of race, gender, language or religion. All digitally connected and driving collective prosperity – just because we can.

The world of the future can only be changed and facilitated through the leadership of today embracing the true purpose of service to humanity. It is for this reason that my focus over this year will be on Effective, Ethical Leadership and my message and theme to our industry this year is:

"OUR FUTURE IS NOW!"

The key objectives we intend addressing through this theme will be:

- Effective Ethical Leadership – most importantly creating role models that inspire our future generations
- Focusing our transformation efforts on changing people's hearts and minds
- Embracing the 4th industrial revolution, the new world of digitisation and new ways of doing things through innovation and data informed techniques
- Focusing on industry integration and working collaboratively on common issues that benefit industry and society.
- Working with our clients in addressing Corruption, Governance, and Client leadership.

The many populous uprisings against Authoritarian rulers in Africa in favour of delivery orientated governments will leave its imprint on governments across the continent in the future. South Africa has been fraught with the controversy of Corruption, State Capture, and Economic decline. We have had to navigate through these troubled times and it is CESA's firm belief that the answer to addressing these challenges is "Leadership".

Having had a smooth ANC leadership race concluded during December 2017 we are on a journey to restoring confidence in our country and its leaders.
DAVOS!!!

Leadership starts with Values and Purpose that underpin Governance and Process.

- The mantra's "nothing worth achieving comes easy" as well as "hard work and honesty are fundamental to maintaining the moral high Ground" should remain the cornerstone to everything we do
- As a nation we will need to answer the question of how to skill more than a generation of our country such that we not only develop skills but also address the social imbalances that have scarred our communities.
- These answers do not lie in unsustainable enrichment practices that are masked as empowerment but should rather focus on skills development and training to ensure that we encourage capable future generations to compete locally and abroad.
- We must ensure that we do not inadvertently create a future generation that is short of technical skills and competence with little or no value system.
- The key for our industry lies in restoring the pride of our people, the legacy of our fore fathers and the belief that true freedom lies in education and the importance of our professional competence as well as integrity.
- We need to ensure that all South Africans and Africans for that matter are given a fair chance to further their contribution to our continent. We need to allow for practices to address the imbalance of the past for this will take many, many years to address. We must celebrate successes and hold these up as examples of good practice so that we increase the role models in our industry.
- Planned programmes of employment creation, skills development and encouraging trade relations with our neighbours, developed and emerging countries should be accelerated such that lessons learnt can be shared unselfishly to allow industry and countries to leapfrog advancements and not make the same mistakes experienced elsewhere.
- Closer to home we need to encourage black empowerment principle not as a means of compliance but to truly develop African industrialists to grow our economies and lead the way in awakening the sleeping giant of our world, AFRICA.
- As part of our transformation drive we need to embrace both youth and gender equality so that we ensure the conversation on our future includes all participants. This is the only way we will be able to design a future that is relevant and inclusive.
- Our industry has changed since democracy in that we now have 27% of the 21900 engineering professionals from previously disadvantaged communities (remembering that for many years these technical professions were never careers that were known, encouraged or spoken about in our society). It is at all times important to understand the background behind this low statistic and not assume that it is something that can be quickly manipulated to make it appear to match the demographics of our Country. It is unfortunately as long as an almost 20 year process starting when you are but a toddler with a good foundation in maths and science. As a Country, the various failed experiments with our basic education system and the further compromise of quality over quantity in basic education have indeed impeded the ability for the natural transformation based on the demographics of the Country to manifest itself after 23 into our new democracy.



Sadly there is also still the aspect of an imbalance in the demographics of participation in the mainstream of our economy, unemployment and poverty most prevalent within these communities, as a further impediment to this process.

At this point, with the limited base from which we have to work with, we all need to drive creating as many engineering professionals and entrepreneurs from previously disadvantaged backgrounds as possible and keep at it. We must challenge ourselves to constantly question “what does success look like and what is acceptable” – this way we will push ourselves to greater heights to allow SA to prosper and not only focus on compliance. In this space CESA hopes to play the role of a facilitator of good values and good business principles that enable transformation not for any other reason but because it is the right thing to do.

On average South Africa has spent 6% of our GDP on Infrastructure over the last 16 years. This loosely translates to around R300bn each year. This spending occurs largely through State Owned Enterprises (SOEs) accounting for around 45%. All of this should afford the engineering professionals in SA many opportunities to operate across our infrastructure landscape. This is unfortunately not the case, with many member companies facing hard times, retrenchments, and cutbacks in spending on areas like training, bursaries, and Corporate Social Responsibility. These are the very necessary spends that are needed to drive the advancements and relevance of our industry as well as the socio-economic imperatives of our country. It is impossible to expect that these programmes can be run solely through government hence the private sector will need to play an important role as well. All of this is however dependent on affordability and if the financial stability and health of these companies are being threatened it is impossible to expect that these programmes will be driven with any vigour. How are we to address this?

In 2015 a breakthrough in Government spending was formulated with National Treasury, the Department of Trade and Industry and the Department of Public Works agreeing that the procurement of Infrastructure and the general procurement of good and services needed to be handled differently by government. This has been a long debate in Government circles that has raged on for many years. The Standard for Infrastructure procurement and Delivery Management (SIPDM) across all spheres in Government became the model for Infrastructure delivery that would be used by all spheres of Government. This was a positive intervention and CESA was happy to be collaborating with National Treasury in the roll out and training for this procurement system. We are however concerned that since the announcement and implementation of this procurement system, across government there is no Infrastructure Directorate at National Treasury that is taking ownership and accountability for the implementation and monitoring of compliance with this Standard. It is also not being driven by specific Infrastructure specialists that should be capacitating the Auditor General’s office who are meant to be reviewing this system and its application in all state organisations during the audit process. The lack of appropriate skills in both these departments needs to be addressed urgently if the **Value for Money** consideration of an annual R300bn spent on infrastructure is to materialise. This failure to act should now be escalated to more senior decision makers in Government.

It is a fallacy that “Increased spending on infrastructure will address our current industry problems. Spending correctly and in the correct areas that will afford us these benefits is more important”



On the face of it procurement is at the heart of many of the current blockages however studies from various parts of the world including South Africa and references to the BS13500 standards of the UK reference the Role of the Client as being fundamental in the success of Infrastructure Projects. The National Planning Commission through its workings found that the emphasis of government procurement focused on compliance by box ticking which made the system costly, burdensome, ineffective and prone to fraud.

These systems placed an excessive burden on weak support functions and focused on compliance instead of value for money. The current processes put in place result in lengthy delays and blockages in the pipeline or delivery of projects. By virtue of the large government expenditure required we need to ensure that government or infrastructure owners drive the correct objectives. The SIPDM programme was designed to migrate the emphasis away from administration and to focus on governance and Leadership to ensure that infrastructure in government is driven with the correct knowledge and competence. It is this efficiency and effectiveness that is the current focus of government organisations in particular that of the National Treasury. CESA is proud to be a partner of the National Treasury through an MOU that allows NT to access our Membership across the country to ensure that all state organisations have the required capacity and skills to be compliant with SIPDM but also to ensure that non-compliance is addressed in a positive manner for future relations.

This raises an important question, that skills and competence is most important in our state organisations and this cannot be undertaken with a tick box mentality. Our industry organisations must work closely with Engineering Council of South Africa (ECSA) in ensuring that the quality, integrity and rigour of our professional registration process is maintained at the high levels it has been such that our registered engineering professionals retain the high international regard and respect that South African engineers command globally. The current impasse between the regulatory body ECSA and the Voluntary Associations is unhealthy for our industry. The notion that either ECSA or the VA's can serve our industry in isolation is ludicrous and needs urgent attention from the various Ministries in government, in particular the Department of Public Works, to whom ECSA is answerable to ensure that the processes required for registering engineers and technologists are done in accordance with global best practice. It is impossible to be referee and player in this instance and a predefined role for the various organisations must be structured outside of the current dispute.

A paradigm shift is needed to address delivery management such that we move away from Public Administration to Governance and then Leadership and having Clients play the right role in projects such that delivery management, execution and success is achieved.

Having the right people being accountable for the right aspects of project delivery is fundamental to the success of any project. In setting up the project structure it is important for clients and service providers to understand their respective mandates and roles such that confusion doesn't muddy the accountability lines. Having reviewed various articles written across the industry I believe that it is important for clients to define their vision and manage all stakeholders around the approvals for execution. Thereafter, it is important for the execution team to be given full accountability for cost and programme and only engage with the Client should any of these parameters be at risk of deviating from what has been approved. By creating clear accountability lines, project pilots seem to suggest that various parts of the project team focus on the areas of their mandate more clearly and ensure that delivery occurs. The net result of this is an obvious positive impact on cost and programme.



Work done on the New Universities programme, both in Mpumalanga and the Northern Cape, executed under the Management of WITS University as the Implementing Agent has yielded certain successes that are worth speaking about. This project focused on governance and leadership and getting the right teams of people in place such that work required could be delivered to the correct standard.

This project boasts the following metrics a marginal overrun on planned project budgets of R1.5bn (less than 2%) and delivery within the fast track programme of 14 months. Project failure has been defined globally by Merrow (2012) as being a project that overruns its budget by more than 25% and is executed over a time 50% greater than originally intended. Using these metrics this project must be classified as a huge success. These successes need to be interrogated and lessons from these transferred to all other government departments. This stability of costs if achievable across all infrastructure projects will result in a definite boost for our fiscus and our industry.

As mentioned earlier work done in other parts of the world highlight that this problem of infrastructure delivery is not only problematic in South Africa but an issue everywhere. The root cause of project failure can be attributed to a few root causes most of which relate to the lack of governance coupled with poor procurement and delivery management all of which fall squarely within the control of client bodies. The CESA membership of about 540 companies have the skills necessary for any role needed within project teams and are available to work with client organisations to formulate the exact project vision and objective as well the cost and programme, in the absence of this skill and competence being available within internal organisational structures. Our membership can offer these broad services across all elements of the delivery management chain. We believe that there is a maturity within our industry to be able to work with clients to increase the project pipeline such that more delivery work is brought into the industry in a shorter period. This will address the sustainability of our organisations and allow for stability and certainty such that programmes of a broad-based nature can be invested in fully and proper capacity building and succession planning can be achieved by all participants in our industry.

CESA has participated along with many other industry organisations in the formulation of the new construction sector scorecard. The scorecard is a mechanistic method of ensuring that various areas within the industry are addressed. Many private sector businesses have viewed this scorecard from a compliance perspective however we need to admit to the fact that these would not have been necessary had we embraced the need for proactively driving our industry in a direction that is more reflective of an inclusive economy for the future society we aspire to in our 23 year old democracy. Setting transformation goals and objectives for our industry is the right thing to do and should not be viewed simply as a compliance issue. CESA through its membership seeks to set the correct value system within the industry for all companies to abide by. Whilst we will not adopt an exclusionary stance we encourage members to lead by example espousing the values we have set. We are confident that through example member companies will embark on the necessary ownership, management, training, supplier and enterprise development initiatives as part of the transformation we would like to see in our society.

The system of set asides is one mechanism within our procurement policies and must be used to encourage new entrants and smaller companies to grow. There is a reliance on companies to afford good partnering opportunities to younger companies and in so doing effect skills transfer across the industry. The other side of this coin is also needed and often forgotten as it is not sufficiently monitored.



Smaller companies receiving these set asides and benefiting from partnering models of EMEs and QSE's must be held accountable in terms of business growth and an increase in opportunities to previously disadvantaged individuals. This will ensure that these companies become role models and serve as a catalyst for growing our achievements in transformation.

If this is not done then our policies will only achieve enrichment of a select few as opposed to the objectives of broad based transformation. In addition to sustainable development of new business we need to root out "Fronting" and the dubious art of "Tenderpreneurship". These are evils that not only raise the capital cost of infrastructure beyond justifiable norms but also steal much needed funding from our strained fiscus which could be used for other programmes that are much needed by communities in our Country.

CESA through its focus on quality and the credibility it has created with various client organisations is the hallmark of competence, integrity, and quality in the consulting engineering industry. We need to encourage our members through this set of values and our code of conduct for member companies to be vocal about corruption, as this evil is not only prevalent in public sector but equally widespread in the private sector. We need to ensure that the value system we engender within our individual companies is such that no doubt is cast on either our companies or our industry. Through our various activities we need to encourage that member companies offer quality service with appropriate Quality accreditation. Using our membership committee, our constitution, and our industry partners we need to ensure that behaviour unbecoming of our profession is made as public as possible such that this serves as a warning that not only will we act against transgressors but we will use our networks to make this known beyond our immediate circles.

CESA together with its member companies, stakeholders and clients are hoping to shape our industry positively with the following key initiatives:

- An Industry-related Bursary programme - where we are collaborating with SAICA to replicate the Thuthuka Bursary Programme for engineers. This will offer a more sustainable and successful model around bursary programmes and with Governments backing of this programme will bring huge benefits to our member companies.
- The BCE programme - one of the most successful Management Development Programmes targeting engineering practitioners in the Consulting Engineering Environment. The success in the programme lies in the fact that it is focused and not generic. We are currently working with the Construction SETA (CETA), to get the Programme accredited by the Quality Council for Trades and Occupations (QCTO), so that it will enjoy further recognition as the designation "Engineering Consultant". In addition, this will give companies making such an investment in their staff, the opportunity to claim a portion of the spend against their skills levy from the CETA.
- Quality standards administration - CESA Membership requires that company's either be formally accredited with an ISO 9001 quality certification or adopt at least a basic format of a Quality Standard. To ensure that all members adhere to this membership requirement, we have decided to develop a simplified and auditable version of the required system which will become known as the CESA Quality Certification. This will further endorse our drive for Quality in our Industry.
- We will continue accrediting training programmes that are recognised for CPD purposes and though we had in the past mostly focused on Engineering CPD, we will be pursuing accreditation for all industry related professions as our member firms employ a broad spectrum of professionals.



- This process will allow companies to optimise their spending on training using in-house developed training programmes for a broader spectrum of their professional staff where such training is relevant.
- Voluntary Associations such as SAICE, SAIEE and SAIMEchE, increasing realise that many of their members, all in their individual capacities are mostly employed in the Consulting Engineering industry, whilst their employers are members of CESA. Through healthy collaboration between these bodies, we believe we will get more informed clients in both the Private and Public Sector.
- We plan to issue a Practice Note on Consulting Engineering Fees to assist both Consultant and Client understand what goes into fee calculations and why various considerations are important for a sustainable industry. The impact of aggressive discounting of fees has the unintended consequence of diminishing the attractiveness of the industry and many future practitioners may opt not to offer such services owing to the huge imbalance in risk and reward.
- CESA has always had a series of Practice Notes which are made available to members to refer to. These are in the process of being updated to ensure that we are in line with more recent technological and legal developments that affect our industry. This is an ongoing process and is a valuable benefit of membership as it comprises of many years of industry knowledge that is made available to members as they go about their business of Consulting Engineering.
- As highlighted earlier, CESA has enjoyed a good relationship with National Treasury through the more constructive focus on sustainable and affordable infrastructure procurement and delivery management (SIPDM). We are hopeful that the work done to date in the roll out of SIPDM and our partnership is further accelerated as we move to addressing a paradigm shift for infrastructure in South Africa.

In conclusion I ask you – what will our future be if we do not try?

Our future is now! Change can be effected if we believe in it and if we work hard enough to achieve it. We have the capacity to achieve our goals and deter corruption because as engineers we are by virtue of our training and some home grown values a disciplined bunch of analytical, fact based decision makers and honest people – some call us Nerds - but I would prefer to say Thinkers !

Ladies and Gentlemen – I appeal to you, for us all to ponder on this, whatever it is that you in your business ! We can transform our beautiful country ! We need to stand together shoulder to shoulder dedicated and stamina filled. Equals in gender, Equals in race and Equals in stature, while embracing technology. With great leadership we can succeed! It is Ke Nako again ! Our future is now !

I Thank you

