



Consulting Engineers South Africa

INFRASTRUCTURE

**Indaba**

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# Professionalisation of engineering services: an academic view

**Prof Mohamed Mostafa**

BSc (Hons Eng) – MSc (Eng) – PhD (Liverpool) – PrEng  
Academic Leader (Head): Civil Engineering – University of KwaZulu-Natal



## Slide Title

- Make Effective Presentations
- Using Awesome Backgrounds
- Engage your Audience
- Capture Audience Attention

## SAICE infrastructure report Card

- Almost 50% of the “public” infrastructure has or is collapsing.
- The overall score of SA infrastructure is “D” which means “risk of failure”
- Only Gautrain scored “A” (world class facility)

## SAICE infrastructure report Card

- Four subsectors scored “E” (unfit for purpose):
  - Rail branch roads
  - PRASA branch lines
  - Sanitation and Wastewater infrastructure excluding urban areas
  - Municipal and provisional unpaved roads

## SAICE infrastructure report Card

- Center of excellence in the country:
  - Airports Company of South Africa
  - Gutrain
  - SANRAL
  - Eskom transmission network
  - Oil and gas pipelines
  - ICT infrastructure
  - fishing harbours

# So what?

- Mobility
- Education
- Health
- Employment
- Wellbeing
- And .....

Poor infrastructure is a serious obstacle in the development of communities and in economic progress. It changes the lives of communities drastically and contributes to poverty



# Why this level?

## Engineering reasons

- **Professionalism**
- Competency
- Inefficiency of labour

## Non Engineering reasons

- Corruption
- Mismanagement
- Qualification
- Budget (maintenance)
- Budget (development)
- Politics (decision making)
- Lack of regulations (partially)
- Lack of accountability

Only Doctors can practice medicine

**The Health Professions Council of South Africa (HPCSA) identified 18 bogus doctors since the beginning of the year, had then arrested and shut down their surgeries**

lol, Feb 2023

**Only Engineers can  
design, construct, operate,  
maintain, manage, and upgrade  
infrastructure**



## International Practice

- Eastern Europe:

*“The system for selection is one of the most crucial areas in top management reform, as mentioned earlier. While a system for the selection on professional merit of civil servants in general, and of middle managers, can be introduced without major conflicts, the system for selection of top managers cannot. It is therefore extremely important that a system for selection provides for transparency, and that guarantees exist that the most suitable person is selected. If that is not the case, or even if it is perceived not to be the case, there will be mistrust towards those individuals appointed, from both the public and from the political opposition.”*

by Staffan Synnerström

- Middle east:

*“In Bahrain, business process transformation, new outputs and fluctuating demand are constantly changing the skills and competencies required by public sector staff. This is why a competency-based model has been adopted”*

## International Practice

- Africa:

*“In Morocco, the government has built an integrated workforce planning system in order to reprofile the public workforce based on a new job classification, systematic updating of post descriptions within each ministry, and aligning capacity with technological change and new civil service missions”*

## International Practice

- Africa:

*“A research in Kenya suggests that one of the several threads running through civil service performance is professionalism”*

## National Practice

- The majority of municipalities are operating without a single engineering professional in a highly technical domain.
- Chapter 9-institutions: an omission occurred when the engineering profession was the only profession not represented in one of the institutions.

## National Practice

- Tenders are run by non-technical people.
- Most tenders do not consider quality, functionality, qualifications and technical merits.
- Decision making processes are politically driven.
- International best practices are not benchmarked.

## National Practice

- ECSA identification on engineering work IDoEW.
- ECSA Code of Practice, code of conduct and CPD
- The only African country with full membership of the International Engineering Alliance (IEA)
- ECSA is signatory to three international engineering competency agreements, including the International Professional Engineers Agreement (IPEA), Agreement of International Engineering Technicians (AIET) and the International Engineering Technologists Agreement (IETA); as well as to three international education accords: the Washington Accord, the Sydney Accord and the Dublin Accord

- The President said the **Auditor-General will be brought in to ensure continuous monitoring of expenditure**, in order to guard against any abuses of the funds needed to address this disaster. He informed Members of Parliament that he plans to appoint a **Minister of Electricity** in the Presidency. “To deal more effectively and urgently with the challenges that confront us, I will appoint a Minister of Electricity in the Presidency to assume full responsibility for overseeing all aspects of the electricity crisis response, including the work of the National Energy Crisis Committee,” he said.

What is the difference between electrical parts?

An electrical engineer?



## Conclusions

- To address the risk of infrastructure collapsing, qualified, competent, and professionally registered engineers should be allotted in positions of planning, decision-making, and execution, across all tiers of government and State Owned Entities (SOEs), of infrastructure projects.
- There is a need for an Office of “Engineer-General” to provide improved governance and accountability and insure a successful implementation of service delivery and public infrastructure projects.

## Conclusions

- Ministers and Deputy Ministers, D-Gs, DDGs, MECs, and HoDs should be engineers in the relevant departments.
- All engineering related positions at the lower levels must be occupied by engineers.
- Separate service delivery from politics.
- HR, legal and finance must not be leading infrastructure projects.
- Engineering education must be supported by government and industry

**THANK YOU**

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CENTENARY  
BUILDING**

