

“Building a capable state – Engineering skills - Professionalisation of engineering services in the public & private sector.”

Overview of the SAICE Infrastructure Report Card 2022

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Public Infrastructure – Economic and Social

Economic infrastructure makes business activity possible and includes, communication, bulk transport and energy supply systems.

Social infrastructure meets basic needs and includes drinking water, sanitation, hospitals, schools and public transport.

“Both are at the centre of economic and public wellbeing”

“Society entrusts civil engineers with the conception, design and care of infrastructure”

Public infrastructure and the triple challenge

Infrastructure offers opportunities to address poverty, inequality and unemployment

We don't invest enough:

- Investment in Economic AND Social infrastructure must rise from 13.7% of GDP in 2020 to 30% in 2030
- Reduce underspend by those public service providers who are “not held accountable, prone to service delivery failures, poor governance, weak institutional capacity, and instability”

Public infrastructure and the triple challenge

Infrastructure offers opportunities to address poverty, inequality and unemployment

We don't invest enough

We don't care enough:

- Maintenance must move from “knee-jerk” reaction to planned / scheduled maintenance
- Civil disrespect like non-payment, wastage, protest, theft of materials and malicious damage
- Corruption, recurring “revenue management failures”

Public infrastructure and the triple challenge

Infrastructure offers opportunities to address poverty, inequality and unemployment

We don't invest enough

We don't care enough

Things happens:

- Climate change
- Covid-19

Purpose of the IRC

- Expert opinion on the current condition and performance of public infrastructure
- Illustrate trends
- Provide public with a common-sense context for the role of owner and user
- Highlight reasons for the current condition
- A basis for engagement on solutions

14 Sectors covered in SAICE IRC 2022

- Water resources
- Water supply
- Sanitation
- Solid waste
- Roads
- Airports
- Ports and coastal
- Rail
- Electricity
- Healthcare
- Education
- Pipelines (new)
- ICT (new)
- Fire (new)

Sub-sectors

2006: 21

2011: 27

2017: 29

2022: 32

The Meaning of the Grades:

A World Class	B Fit for the Future	C Satisfactory for Now	D At Risk of Failure	E Unfit for Purpose
<p>Comparable to the best internationally in every respect. In excellent condition and well maintained, with capacity to endure pressure from unusual events.</p>	<p>In good condition and properly maintained. Satisfies current demands and is sufficiently robust to deal with minor incidents.</p>	<p>Condition is acceptable although stressed at peak periods. Will need investment in current Medium Term Expenditure Framework period to avoid serious deficiencies.</p>	<p>Poorly maintained and not coping with demands. Public may suffer severe inconvenience and even danger if prompt action is not taken.</p>	<p>Failed or is on the verge of failure, exposing the public to health/safety hazards. Immediate action is required.</p>

“+” is robust



“-” is fragile

2022 IRC Sector Grades and trends:

Water, Sanitation and Waste Management

A

B

C

D

E

Water
Supply

urban
areas

Bulk
resources

other
areas

Sanitation
(Including
Wastewater)

urban
areas

other
areas

Solid Waste
Management

Urban
collection

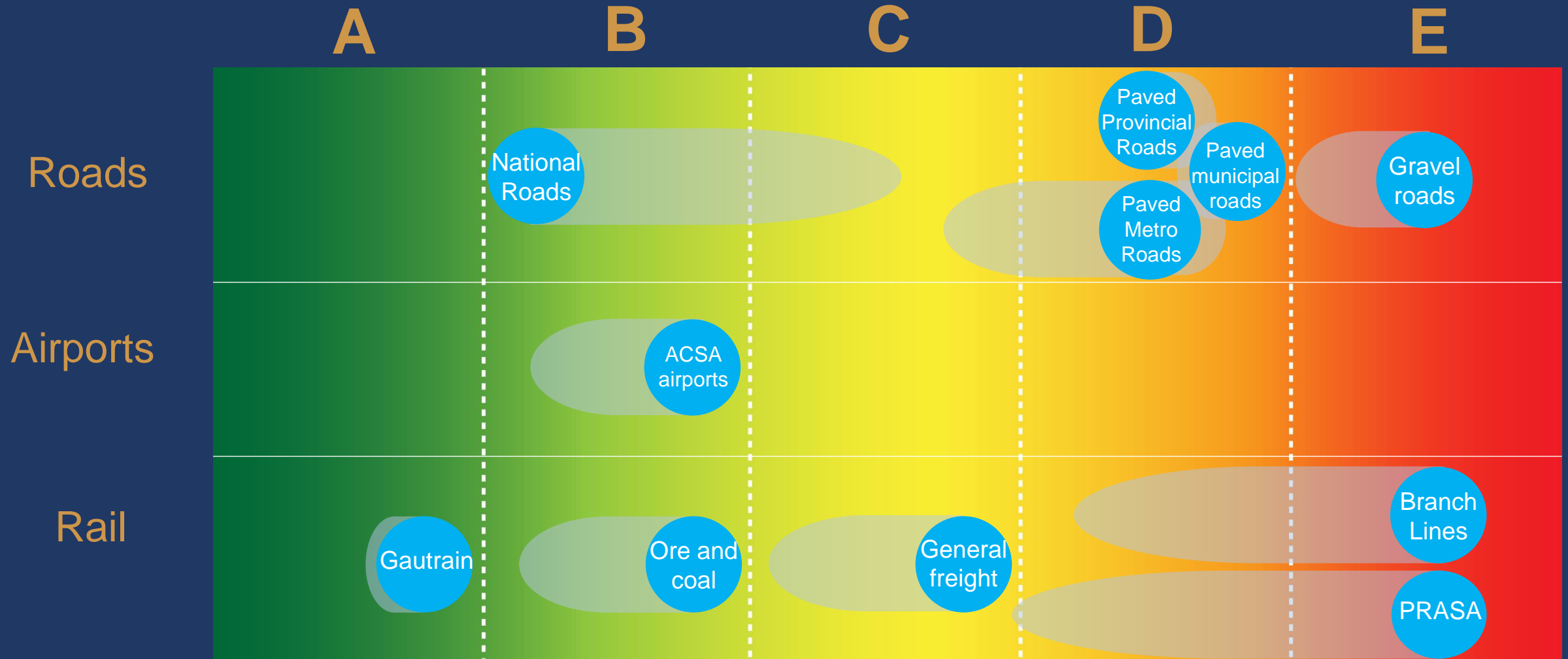
Rural
collection

Urban
Disposal

Rural
disposal

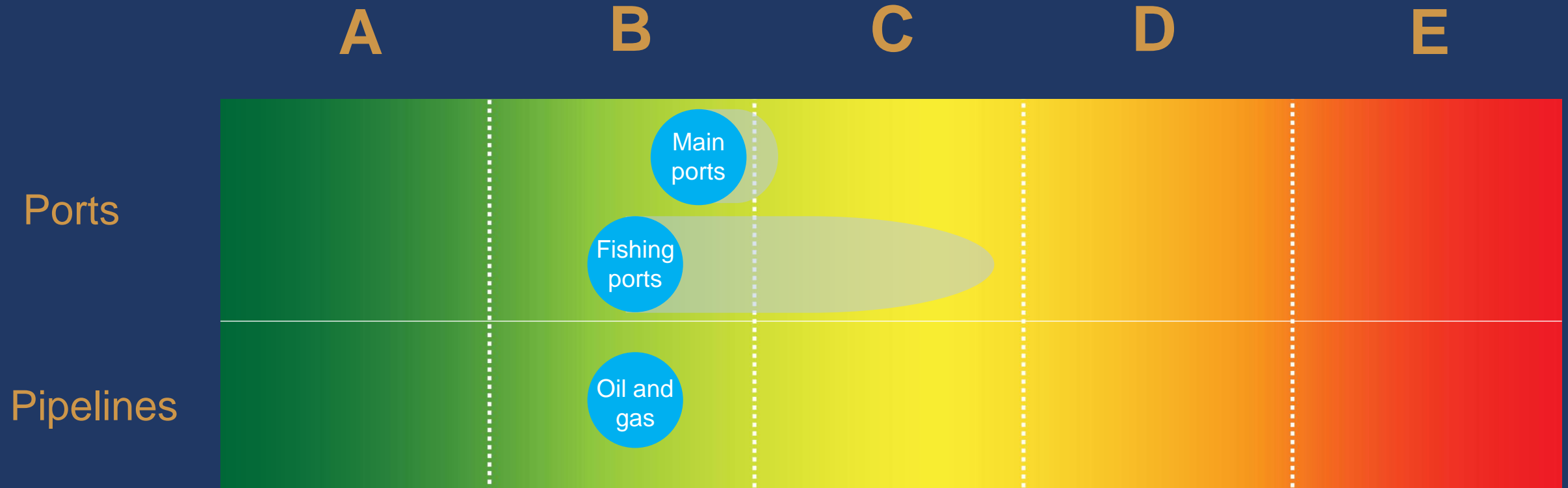
2022 IRC Sector Grades:

Transportation: Roads, Airports and Rail



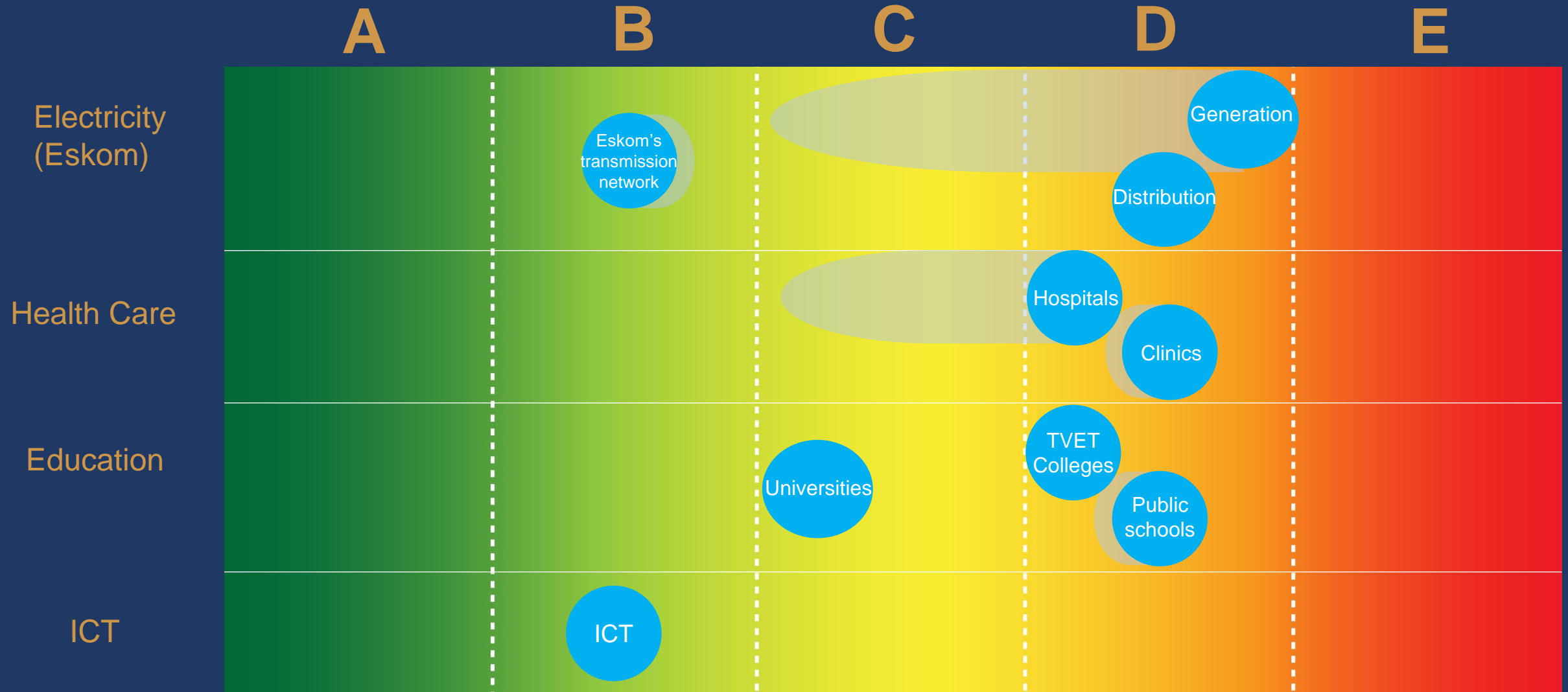
2022 IRC Sector Grades:

Transportation: Ports and Pipelines



2022 IRC Sector Grades:

Electricity, Buildings and ICT



2022 IRC Sector Grades:

Overall Infrastructure

Overall grade:

D

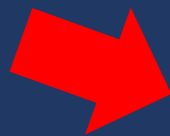
D+

2006



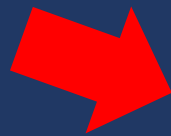
C-

2011



D+

2017



D

2022

Summary for 2022:

- A = 1
- B = 8
- C = 6
- D = 13
- E = 4

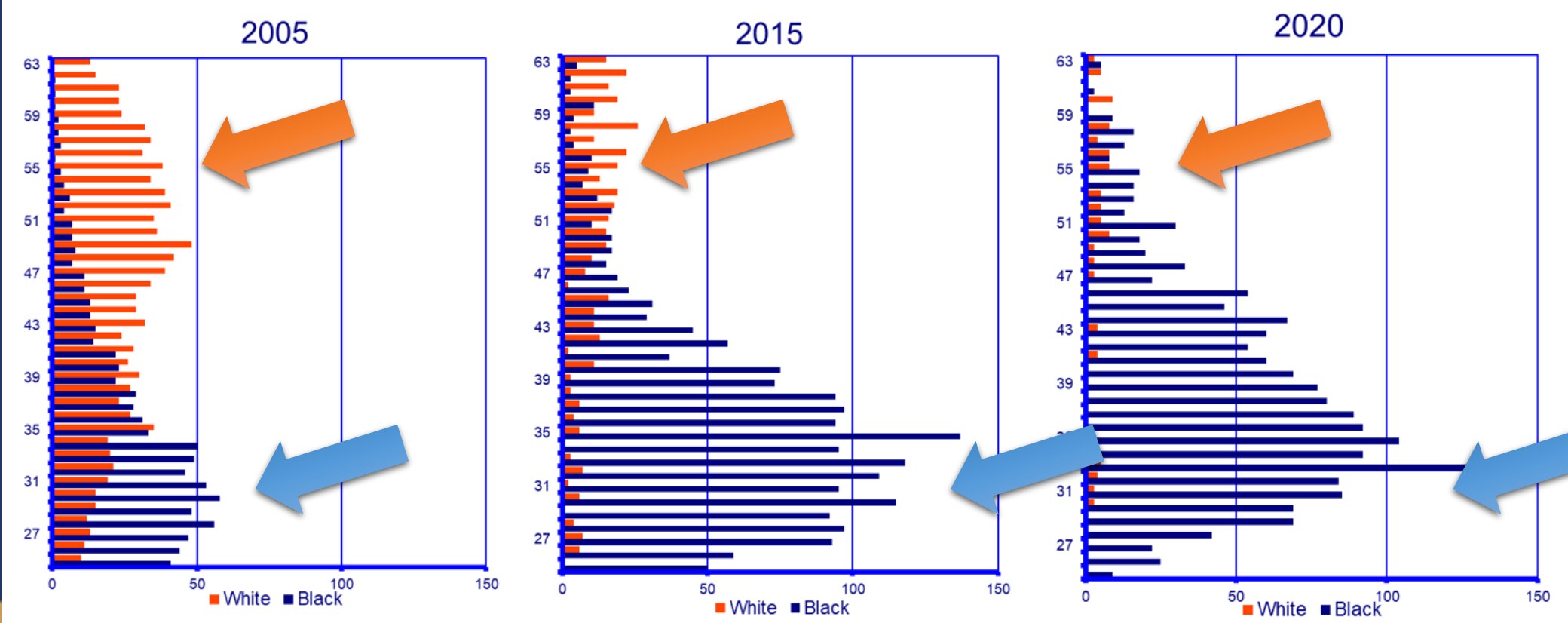
created by and for the benefit of all...

Matters of Critical Importance

- **People and Relationships** - sufficient numbers of the appropriate skills in the right places
- **Institutional Robustness** - clear mandates, accountability, effective policies, governance systems
- **Data and information** - on the age, condition and performance of current assets, backlogs and future needs

Matters of Critical Importance

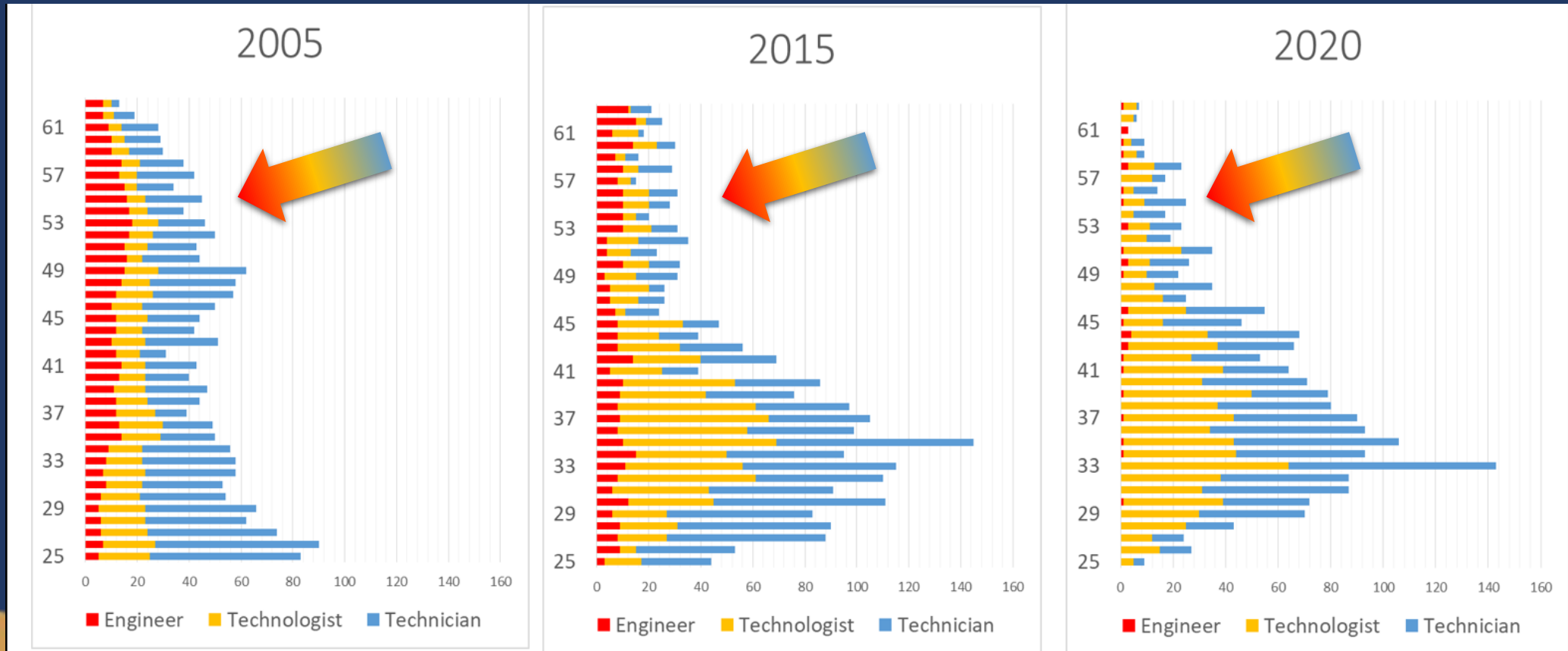
- People and Relationships



Engineering practitioners in Local Government by race, Numbers and Needs, 2007, 2015 and LGSETA WSP, 2020 (Y-axis is "Age" and X-axis is "Number")

Matters of Critical Importance

- People and Relationships



Civil Engineering Practitioners in Local Government by qualification, Numbers and Needs, 2007, 2015 and LGSETA WSP, 2020 (Y-axis is "Age" and X-axis is "Number")

Matters of Critical Importance

- People and Relationships

The net effect of this skills deficit is:

- No long-term planning is carried out,
- No routine maintenance work is scheduled,
- No meaningful budgets are planned.

Reasons for optimism

- Centres of excellence
 - ACSA, Gautrain, SANRAL, transmission networks, heavy haul, ICT, oil and gas, fishing harbours
- Professionalism in the public sector
 - Municipalities with clean audits
 - Publication of Blue drop and Green drop reports
- The new policy underpinnings for life cycle costing, maintenance budgeting and asset management,
- The National Framework towards the professionalisation of the public sector,
- Gazette 45181 on Municipal Staff Competence Profiles.

The Road Ahead

We need to convince the decision makers of the urgent need for professionalism and role of engineering in the provision and maintenance of our infrastructure:

- The primary target audiences should be in national, provincial & local government including SoC's.
- The secondary targets should be the tertiary institutions, the broader construction industry, DFIs and also the built environment professions.

We need your help to make a difference !

In closing

There is no doubt in my mind that the proper capacitation of the public sector will lead to the improvement of infrastructure in South Africa, which will, best serve the public interest.

Thank you.



Thank You

www.saice.org.za/irc

