



CESA

Consulting Engineers South Africa

**YOUR PARTNER IN ENABLING
CONSULTING ENGINEERING
EXCELLENCE**

**LET'S TALK
TRANSFORMATION!**

Lynne Pretorius, Pr.Eng



LET'S TALK TRANSFORMATION

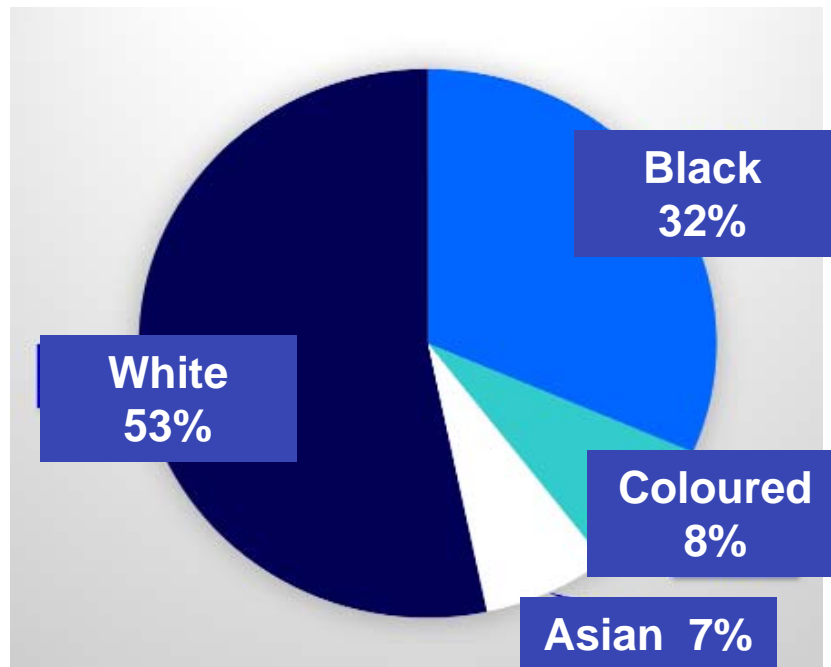
❑ Facing the numbers

❑ CESA's Approach

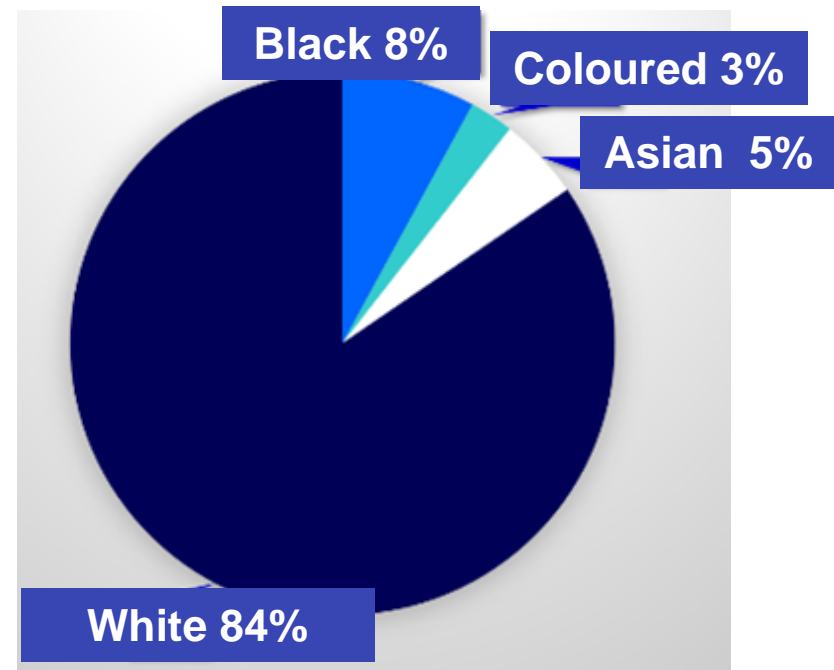


FACING THE NUMBERS

Profile of the CESA membership



Profile by race

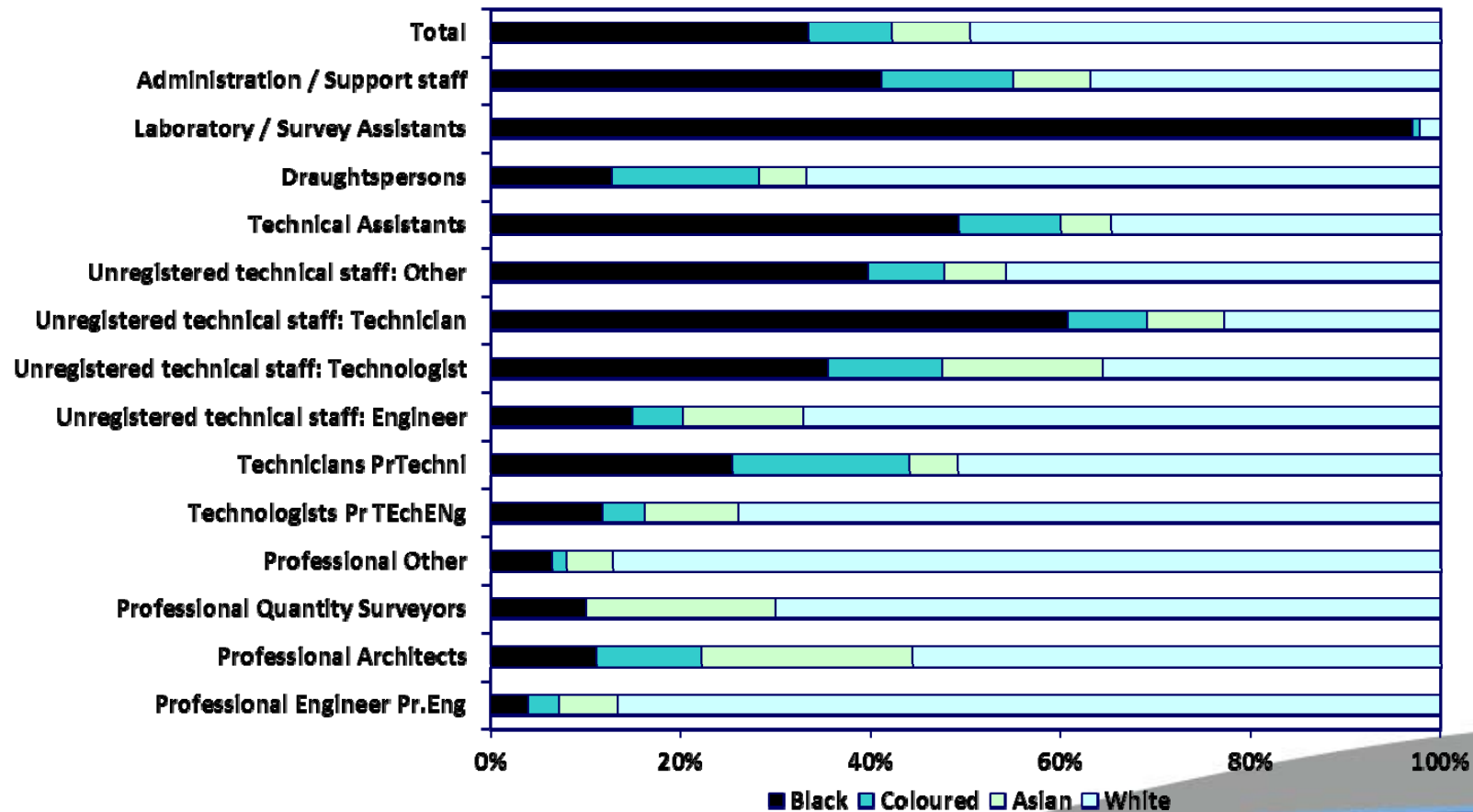


Profile of Professional Engineers by Race

Source: CESA, Bi-annual Economic and Capacity Survey December 2016

FACING THE NUMBERS

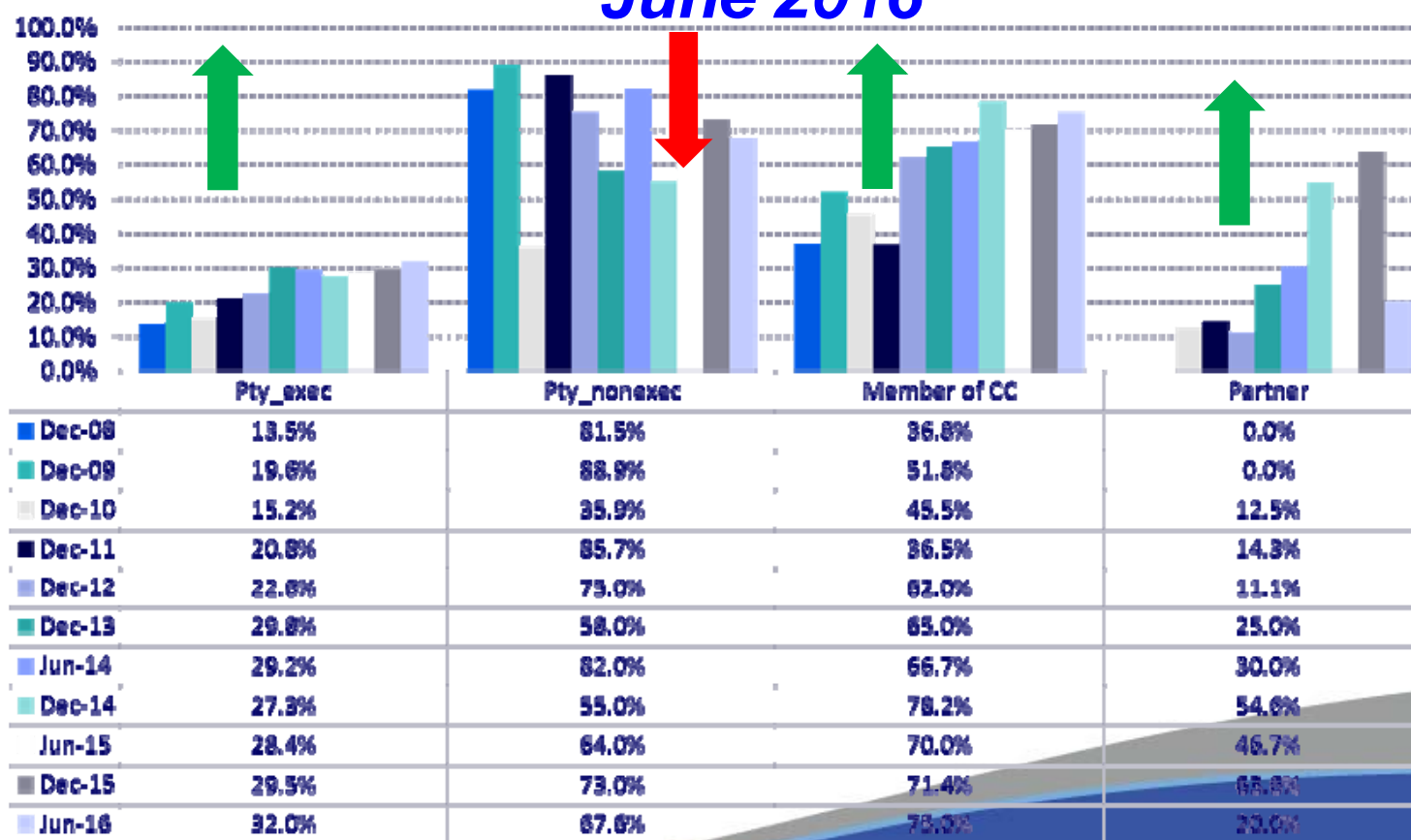
Employment breakdown



Source: CESA, Bi-annual Economic and Capacity Survey December 2016

FACING THE NUMBERS

Black (including Asian and Coloured) Executive Staff as % of total Executive / December 2008 – June 2016



Source: CESA, Bi-annual Economic and Capacity Survey December 2016

FACING THE NUMBERS

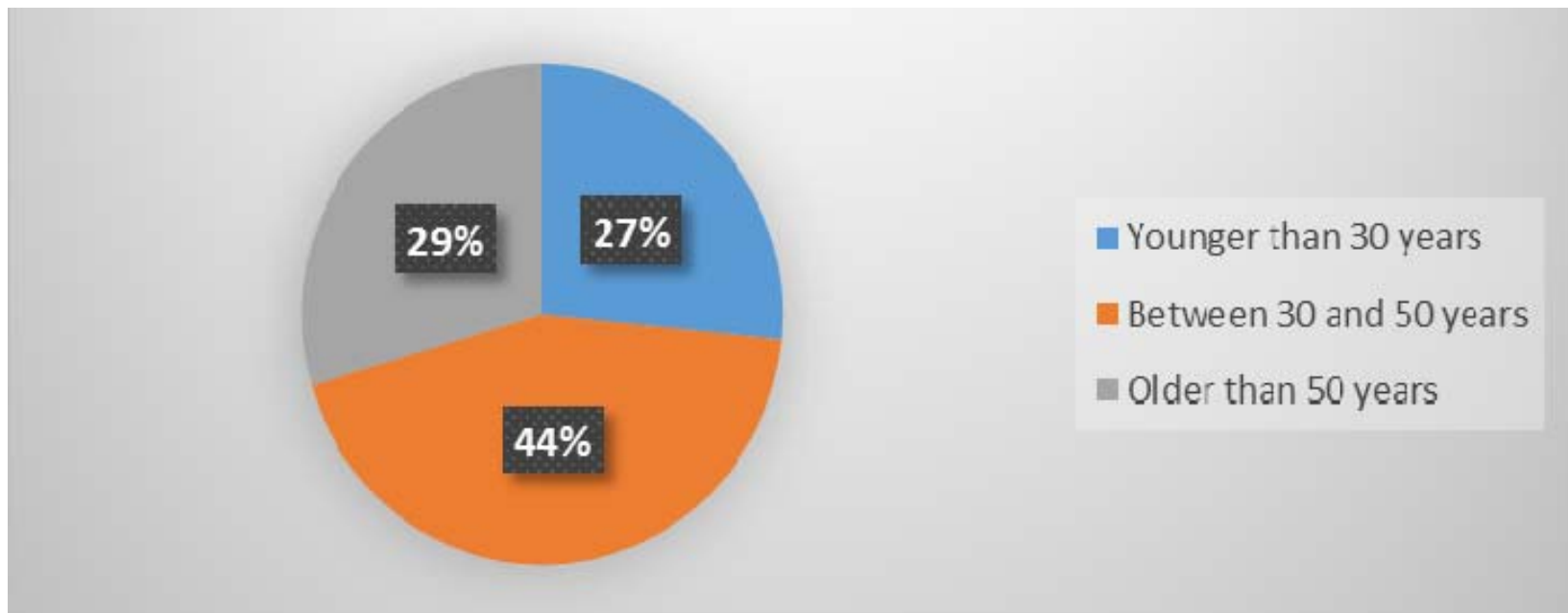
Breakdown of CESA membership

ANNUAL DECLARATION PARAMETERS	SIZE OF FIRMS		
	LARGE	MEDIUM	SMALL
	> R35M	R11.5m < x < R35m	< R 11.5m
No of firms	28	132	373
No of employees	all > 100	30-100	1-30
BBBEE	2-6	1-7	1-8
No of Black-owned > 51%	1	22	99
% black-owned	23%		
% of firms with black ownership > 51%	0.19%	4.13%	18.57%
Non-black owned < 51%	27	110	274
% of firms ito size of firms	5%	25%	70%

Source: CESA Membership Database, December 2016

FACING THE NUMBERS

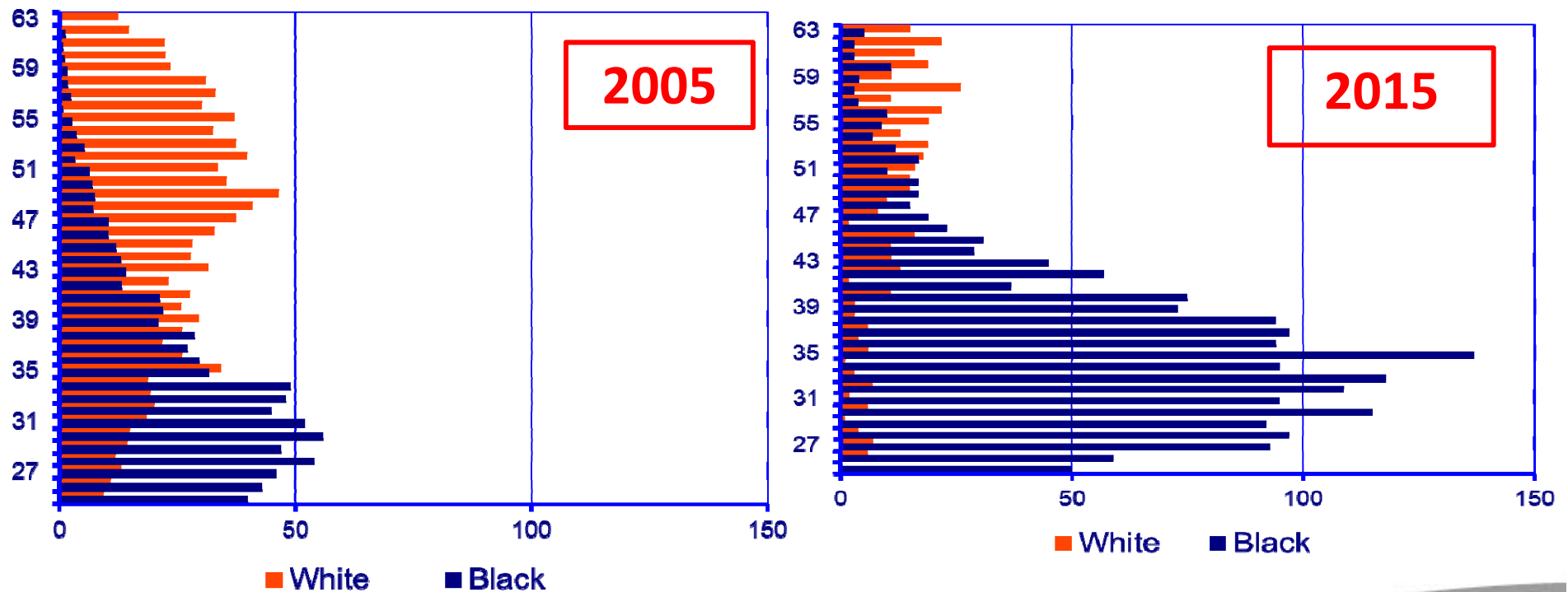
Average age of engineering professional = 38 years



Source: Engineering Council of South Africa, National Engineering Skills Survey, December 2013

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Local government – civil engineering expertise lost

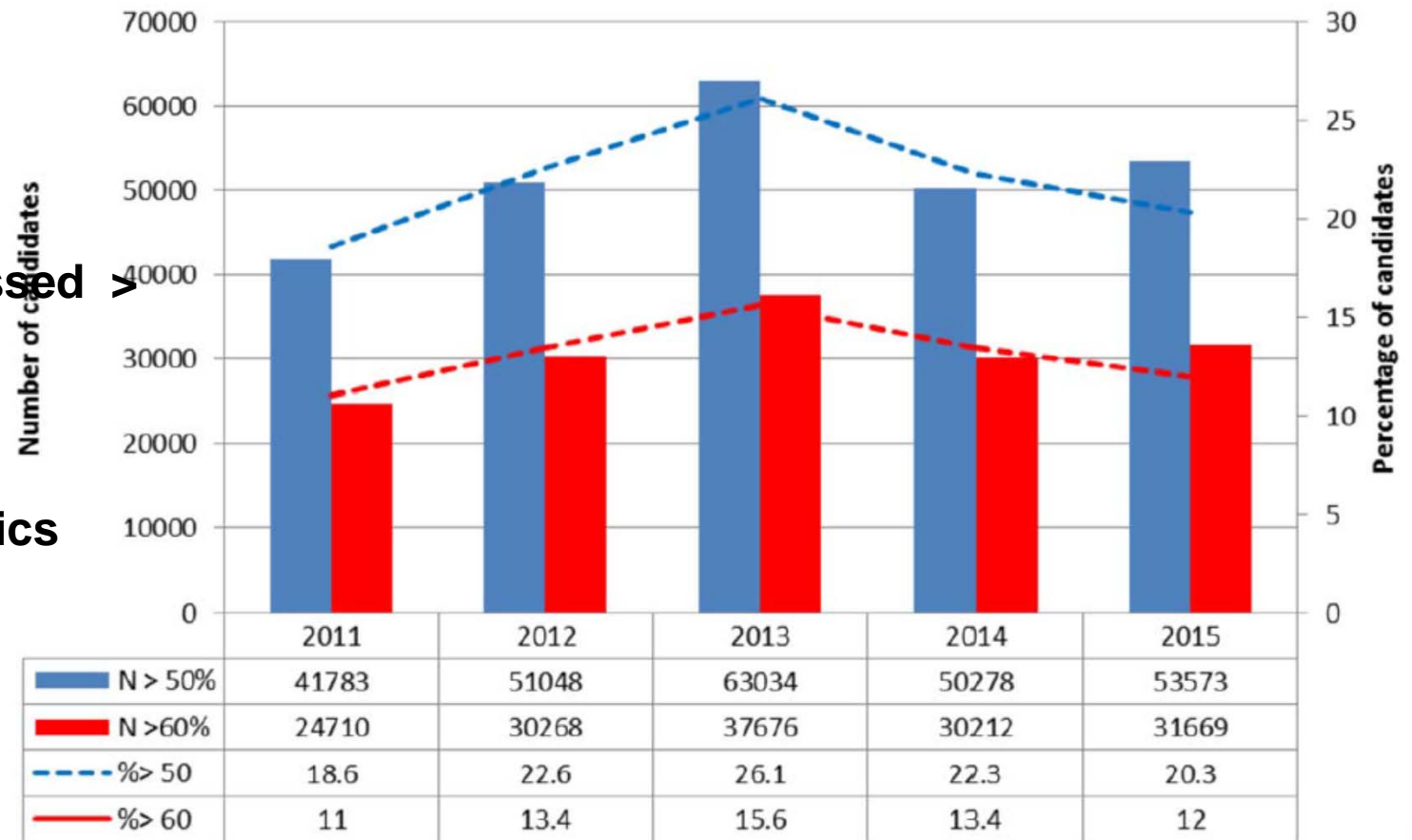


Source: Dr Allyson Lawless, Numbers And Needs In Local Government – Update 2015, paper presented at the IMIESA conference, October 2016

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State of Education Mathematics

- ☐ About 20% passed > 50%
- ☐ About 10-12% passed > 60%
- ☐ Same for Physics

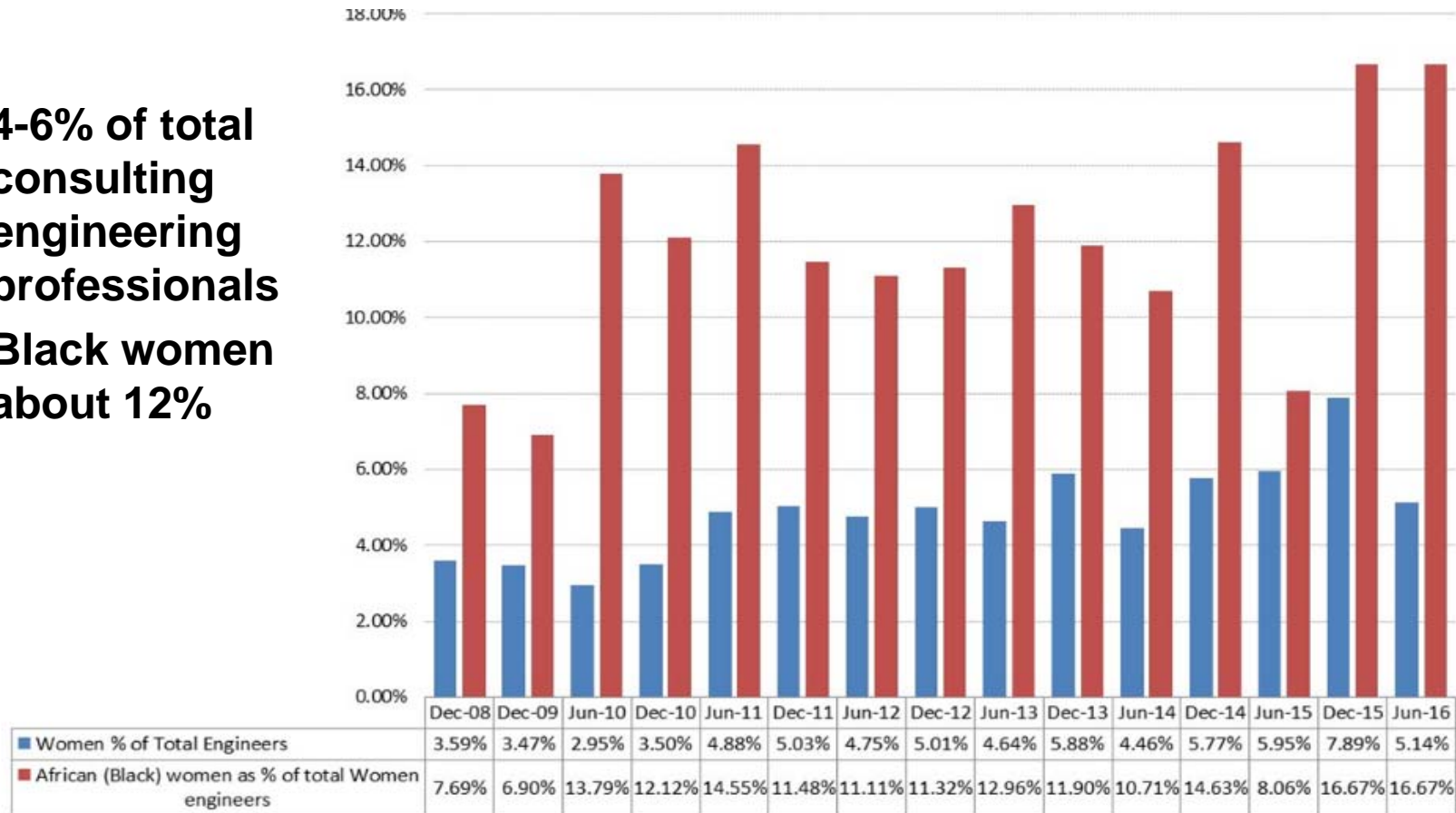


Source: Trends in International Mathematics and Science Study South Africa, Matric: Better or worse?

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Women in Engineering


- ❑ 4-6% of total consulting engineering professionals
- ❑ Black women about 12%



Source: CESA, Bi-annual Economic and Capacity Survey December 2016

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❑ Summary

- ❑ Limited amount of learners with adequate maths and science competence.
 - ❑ CESA has limited information to track progress regarding transformation
 - ❑ Ave age of engineering professionals is 38 years.
 - ❑ Significant progress made in public sector
 - ❑ Mentoring is a concern
 - ❑ Overall sustainable development of all young engineering staff
- 

CESA's APPROACH

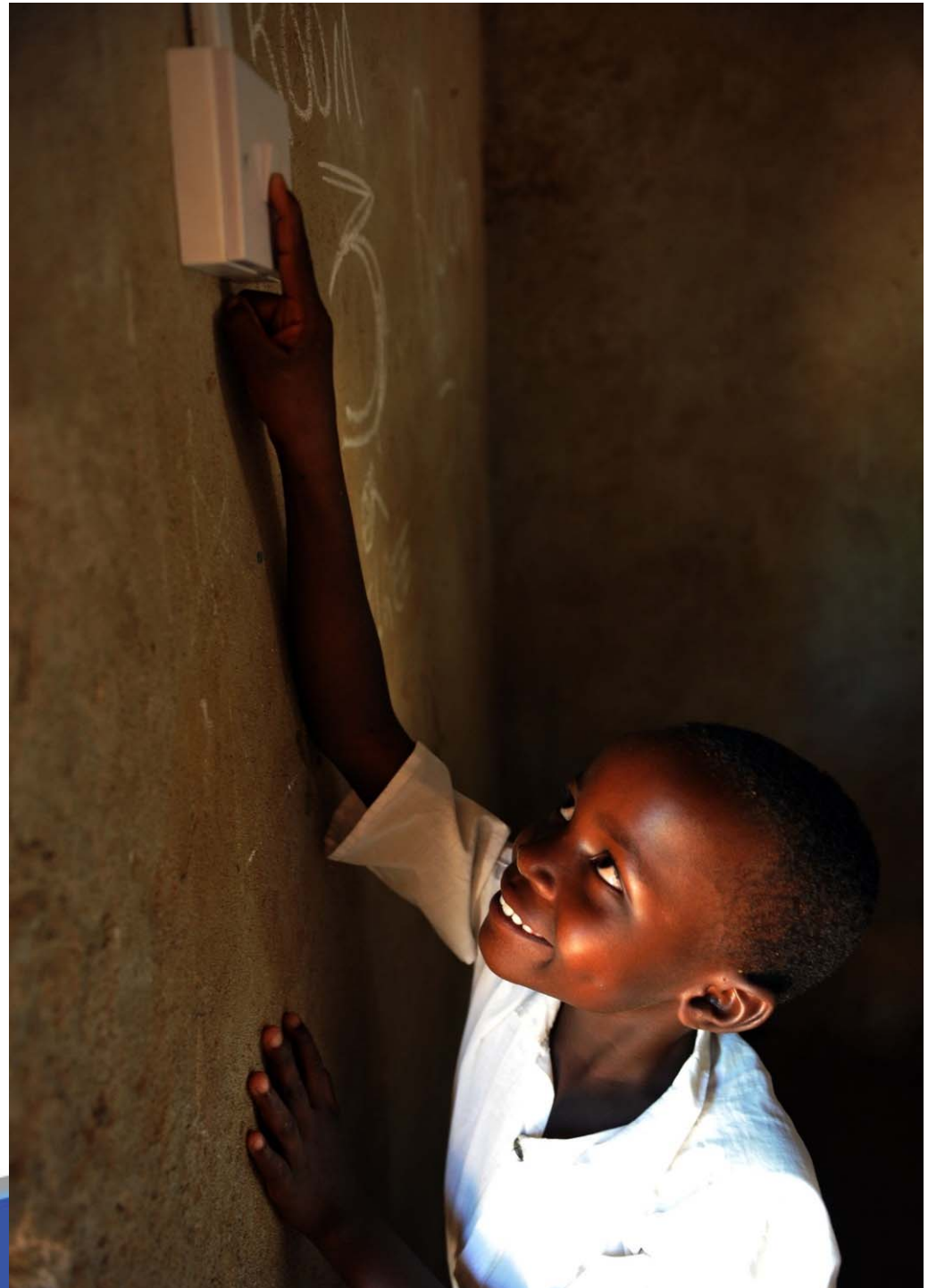


Transformation is good business

- ☐ **Ethical approach**
- ☐ **Part of sustainable business growth strategy – grow the next generation of engineering staff**

CESA's objectives

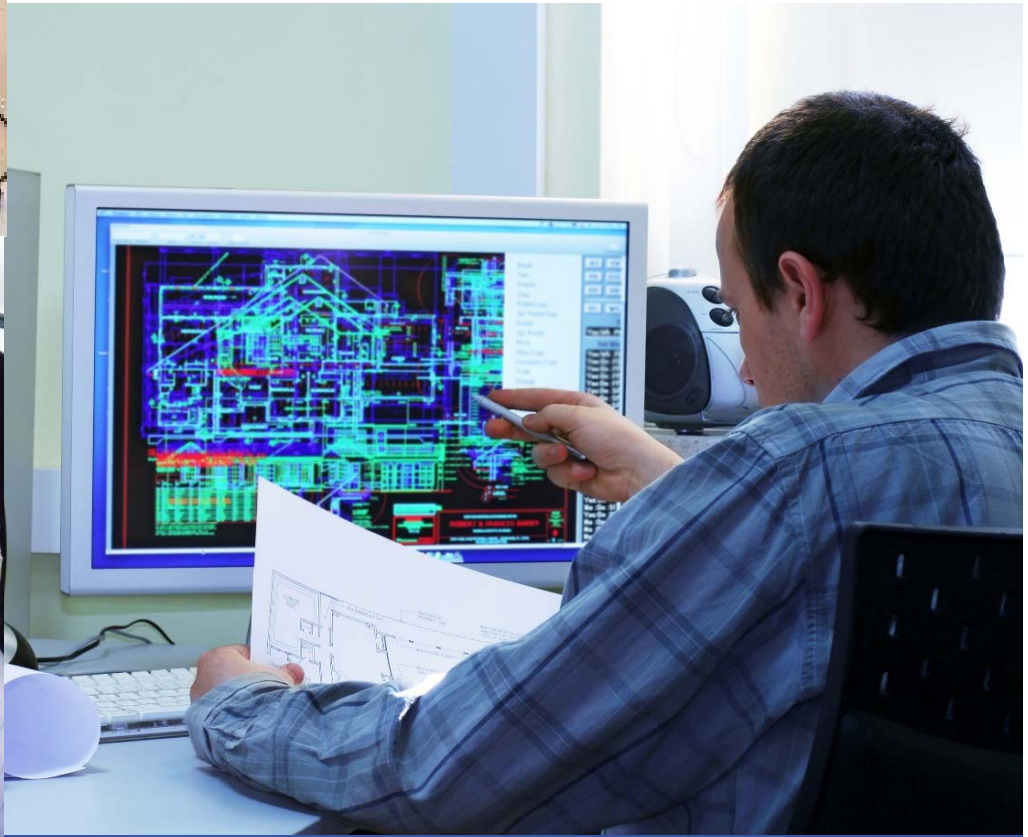
- ☐ **Increased participation of black and female engineering staff/ professionals at various levels of member firms.**
- ☐ **Transforming CESA's membership profile**
- ☐ **Sustainable growth and development of consulting engineering staff in private and public sector**



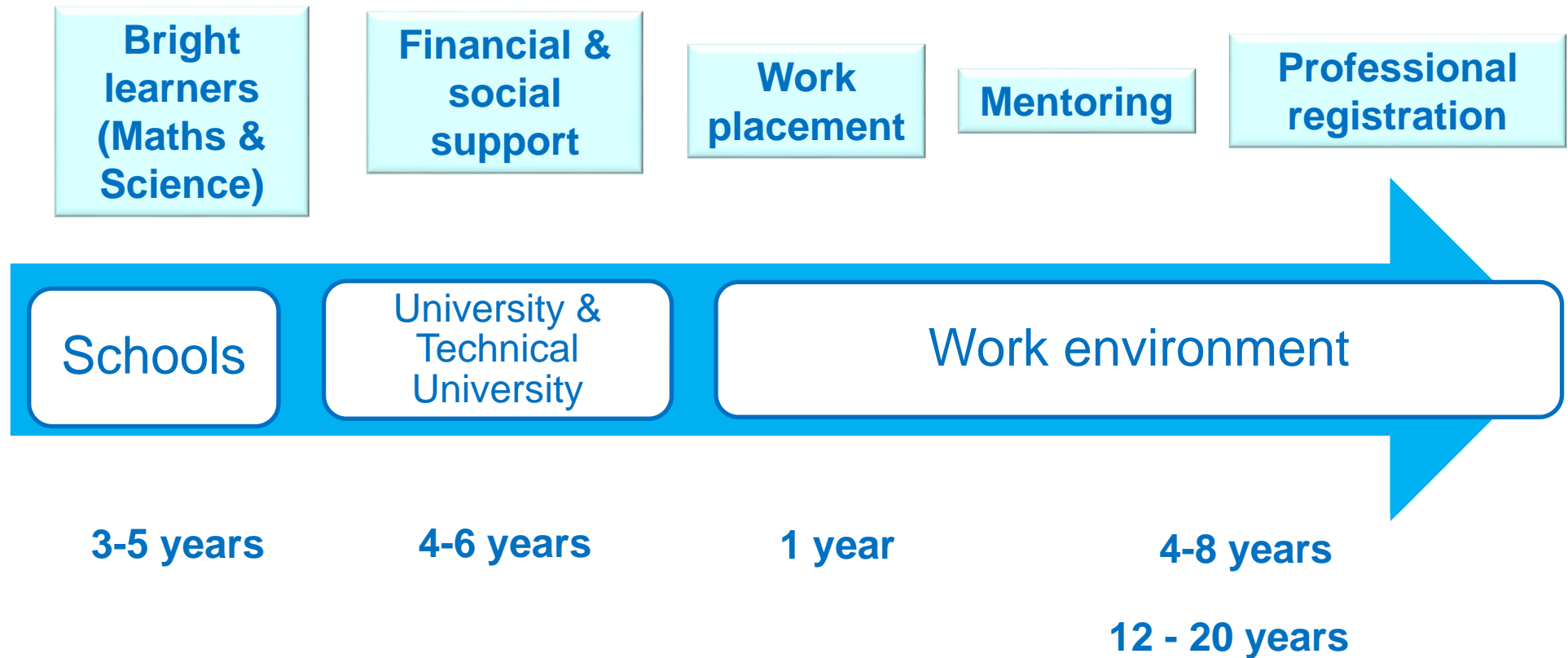
CESA's APPROACH



***Get young engineering
staff professionally
registered***



CESA's APPROACH



***Get young engineering staff
professionally registered.***

CESA's APPROACH



Support to small and medium size business

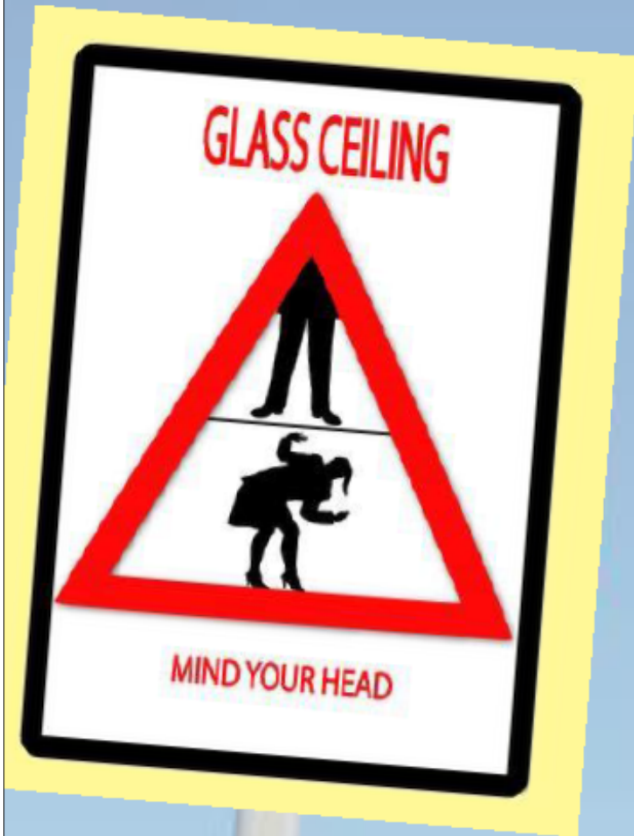
- ☐ **No one size fits all approach**
- ☐ **Incubation program for start-up businesses**
- ☐ **Reduced fees over start-up period**
- ☐ **Database of emerging firms**
- ☐ **Opportunities within joint ventures and sub-consulting agreements**

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Mentoring

- ❑ Member firms to partner with public sector bodies – training in private sector
- ❑ Role of retired engineers – private and public sector mentoring
- ❑ CESA School – Business of Consulting Engineers





CESA's APPROACH


Breaking the Glass Ceiling

Women in Engineering

“unacknowledged barrier to advancement in a profession, especially affecting women and members of minorities”

“70% of women who graduate with engineering degrees, are lost when they start working due to isolation”

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- 
- ❑ Male-dominated culture
 - ❑ Unproductive employees
 - ❑ Negative stereotypes
 - ❑ Quota label
 - ❑ Gender wage gap

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- ❑ Develop programs around diversity management
- ❑ Gender-related discussions should form part of mainstream transformation discussions



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Acknowledge and address barriers

- ☐ **Poverty & affordability**
- ☐ **Cultural differences**
- ☐ **Role of language**
- ☐ **Work-life balance**
- ☐ **Corporate culture**
- ☐ **Patriarchal society**

CESA'S APPROACH

A photograph of four professionals—two men and two women—wearing hard hats and business attire, gathered around a large set of blueprints on a construction site. The man on the far left wears a white hard hat and a grey suit with a red tie. The woman next to him wears a white hard hat and a light blue blouse. The man on the far right wears a yellow hard hat and a grey suit with a striped tie. The woman next to him wears a yellow hard hat and a dark top. They are all looking down at the blueprints, which are held by the man on the left. The background shows a construction site with scaffolding and structural elements.

ATTRACT & RETAIN

CESA's APPROACH

IMPROVED MONITORING

Annual declaration forms expanded to include staff demographics





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THANK YOU!

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