



# CESA

Consulting Engineers South Africa

**YOUR PARTNER IN ENABLING  
CONSULTING ENGINEERING  
EXCELLENCE**

**LET'S TALK  
TRANSFORMATION!**

*Lynne Pretorius, Pr.Eng*



# LET'S TALK TRANSFORMATION

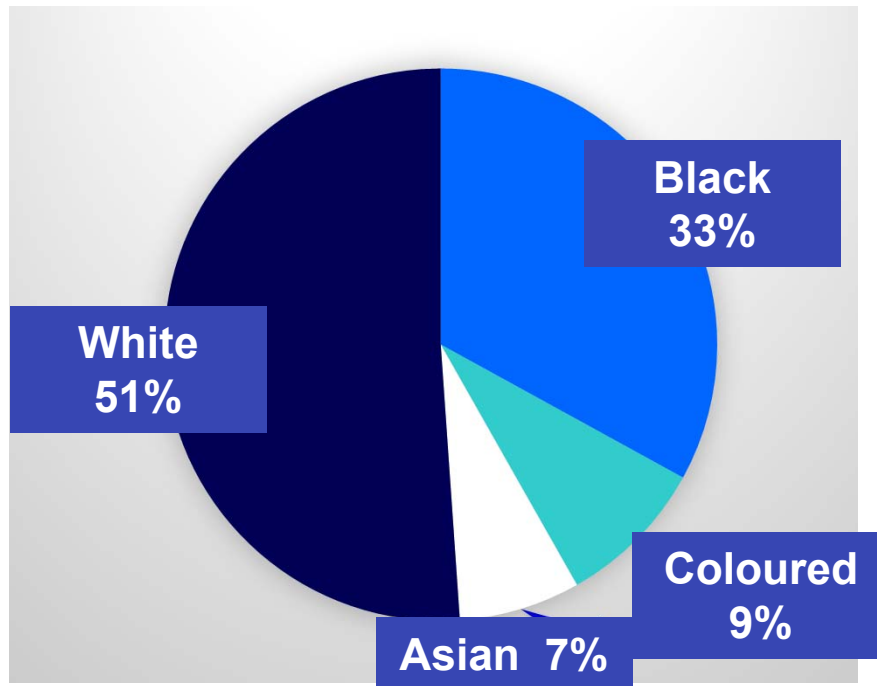
❑ Facing the numbers

❑ CESA's Approach

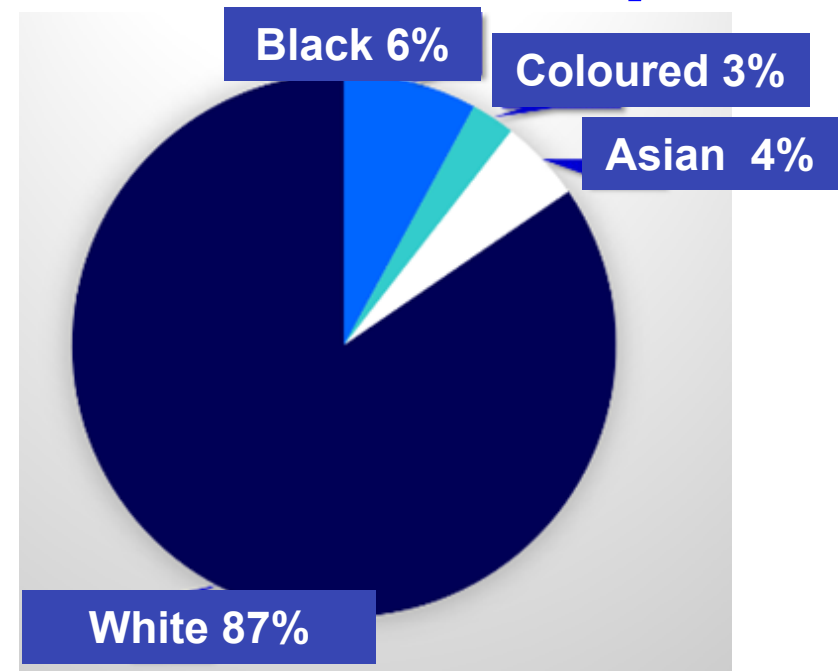


# FACING THE NUMBERS

## *Profile of the CESA membership*



*Profile by race*

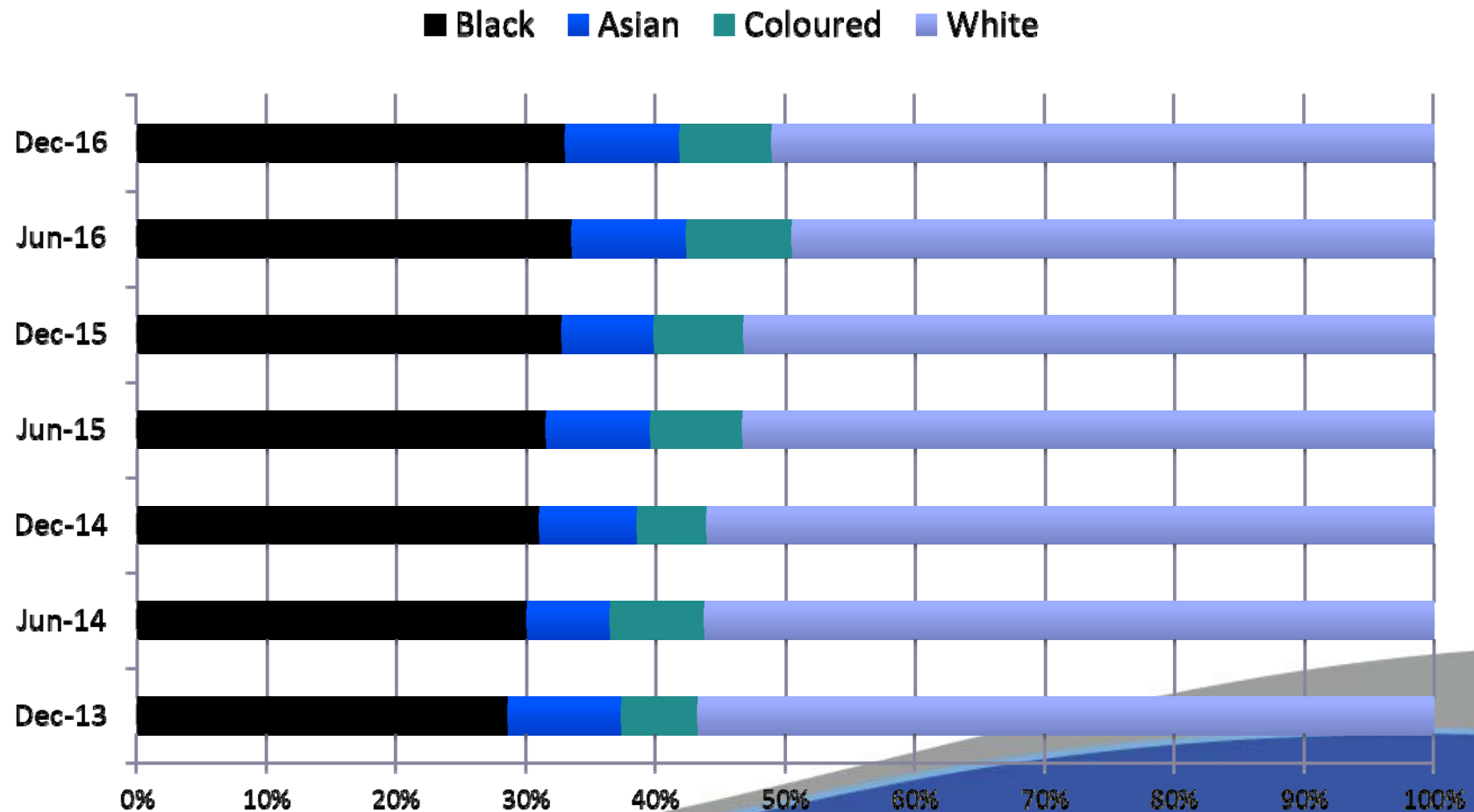


*Profile of Professional Engineers by Race*

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

# FACING THE NUMBERS

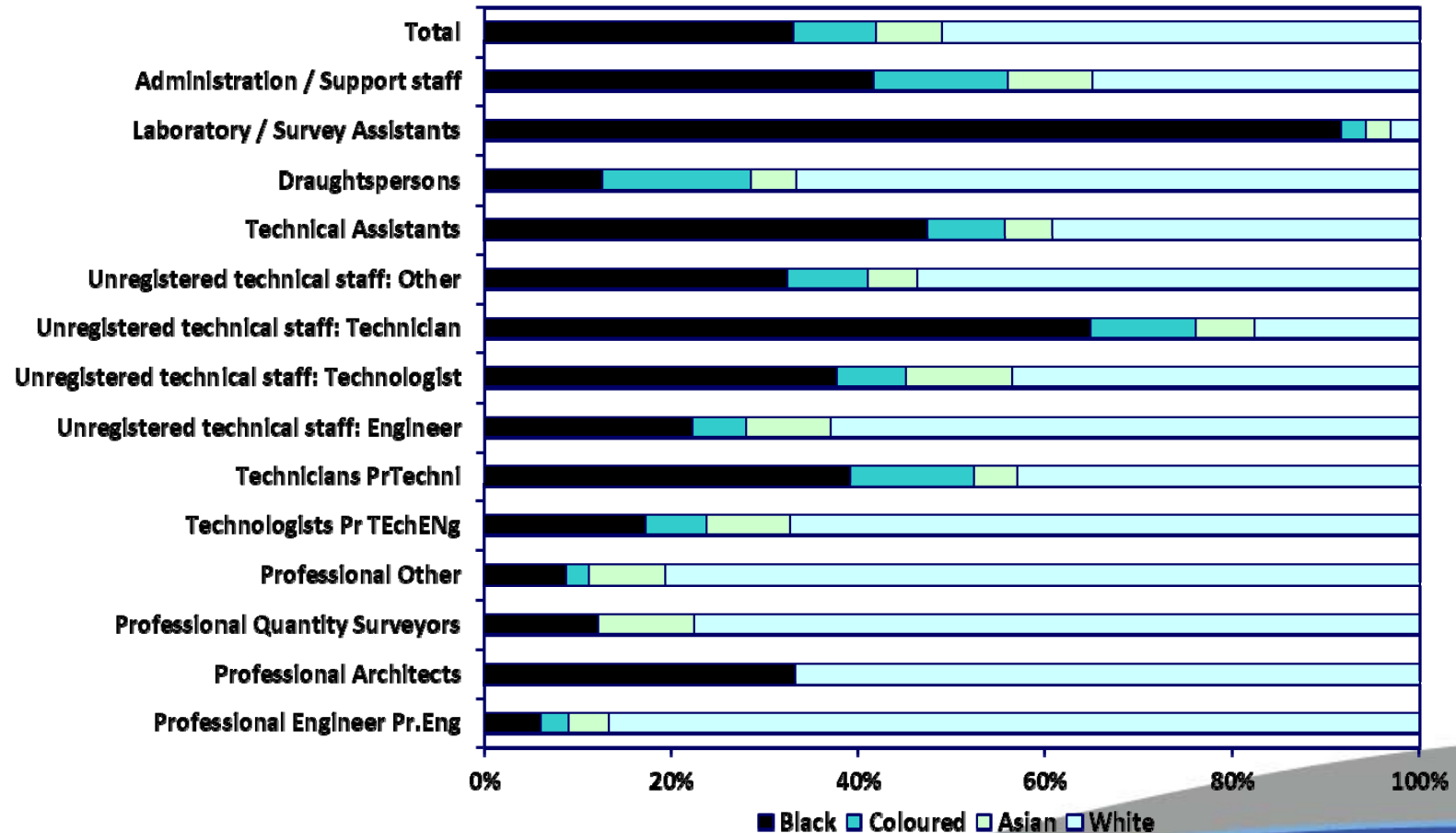
## *Overall Employment Breakdown, by race*



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

# FACING THE NUMBERS

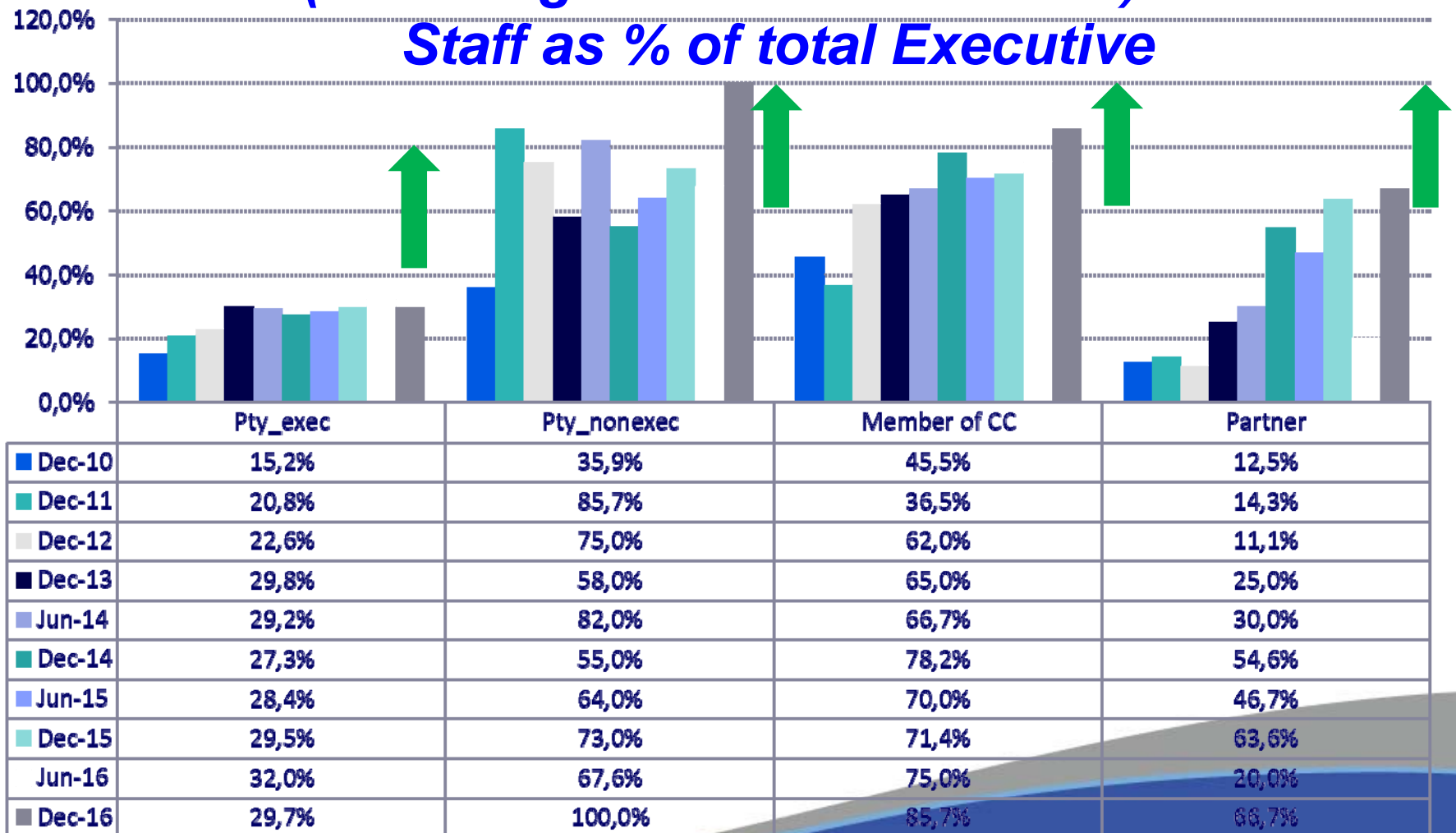
## *Employment breakdown*



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

# FACING THE NUMBERS

## *Black (including Asian and Coloured) Executive Staff as % of total Executive*



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

# FACING THE NUMBERS

## *Breakdown of CESA membership*

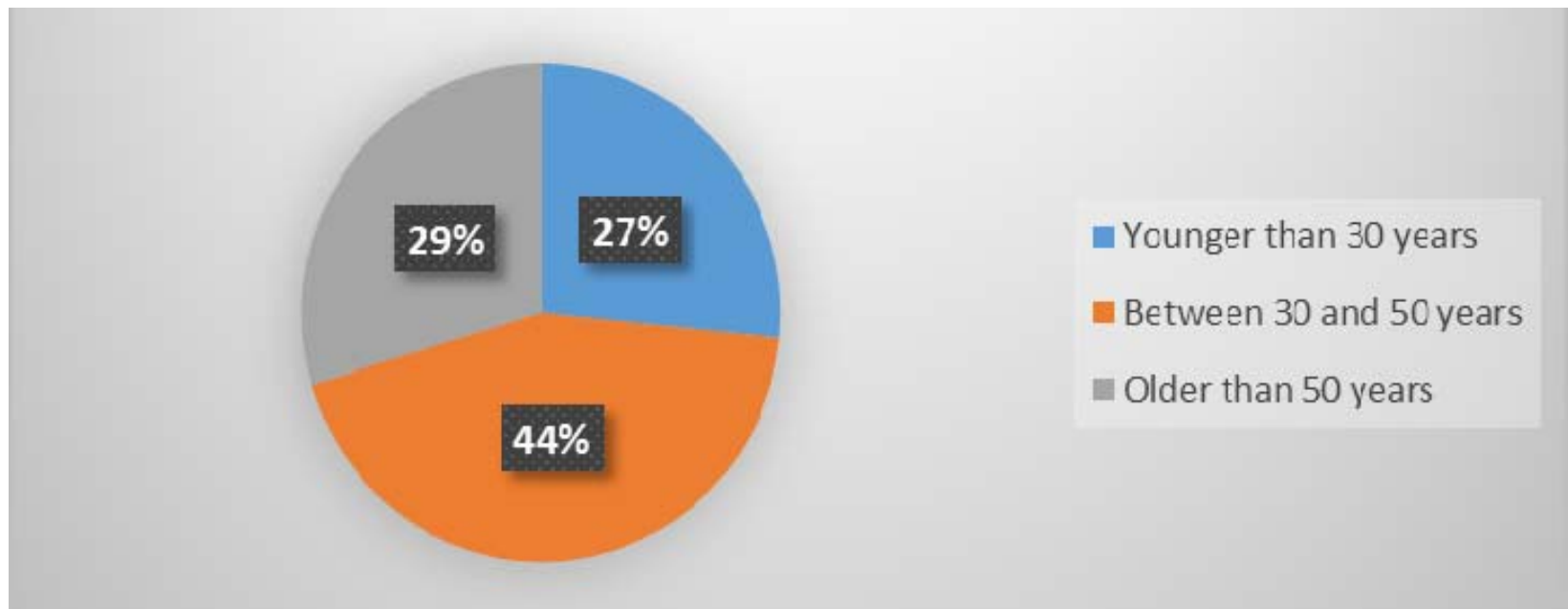
ANNUAL DECLARATION PARAMETERS	SIZE OF FIRMS		
	LARGE	MEDIUM	SMALL
	> R35M	R11.5m < x < R35m	< R 11.5m
No of firms	28	132	373
No of employees	all > 100	30-100	1-30
BBBEE	2-6	1-7	1-8
No of Black-owned > 51%	1	22	99
% black-owned	23%		
% of firms with black ownership > 51%	0.19%	4.13%	18.57%
Non-black owned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

Source: CESA Membership Database, December 2016



# FACING THE NUMBERS

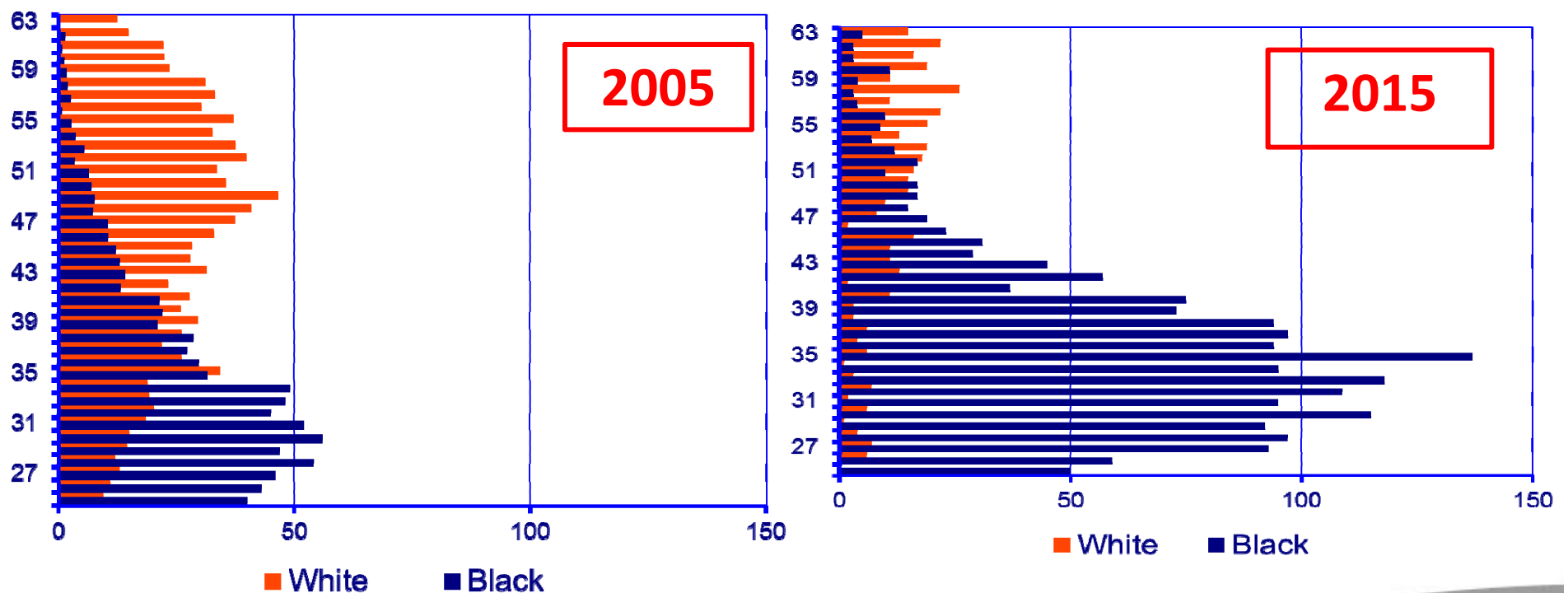
*Average age of engineering professional = 38 years*



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

# FACING THE NUMBERS

## *Local government – civil engineering expertise lost*

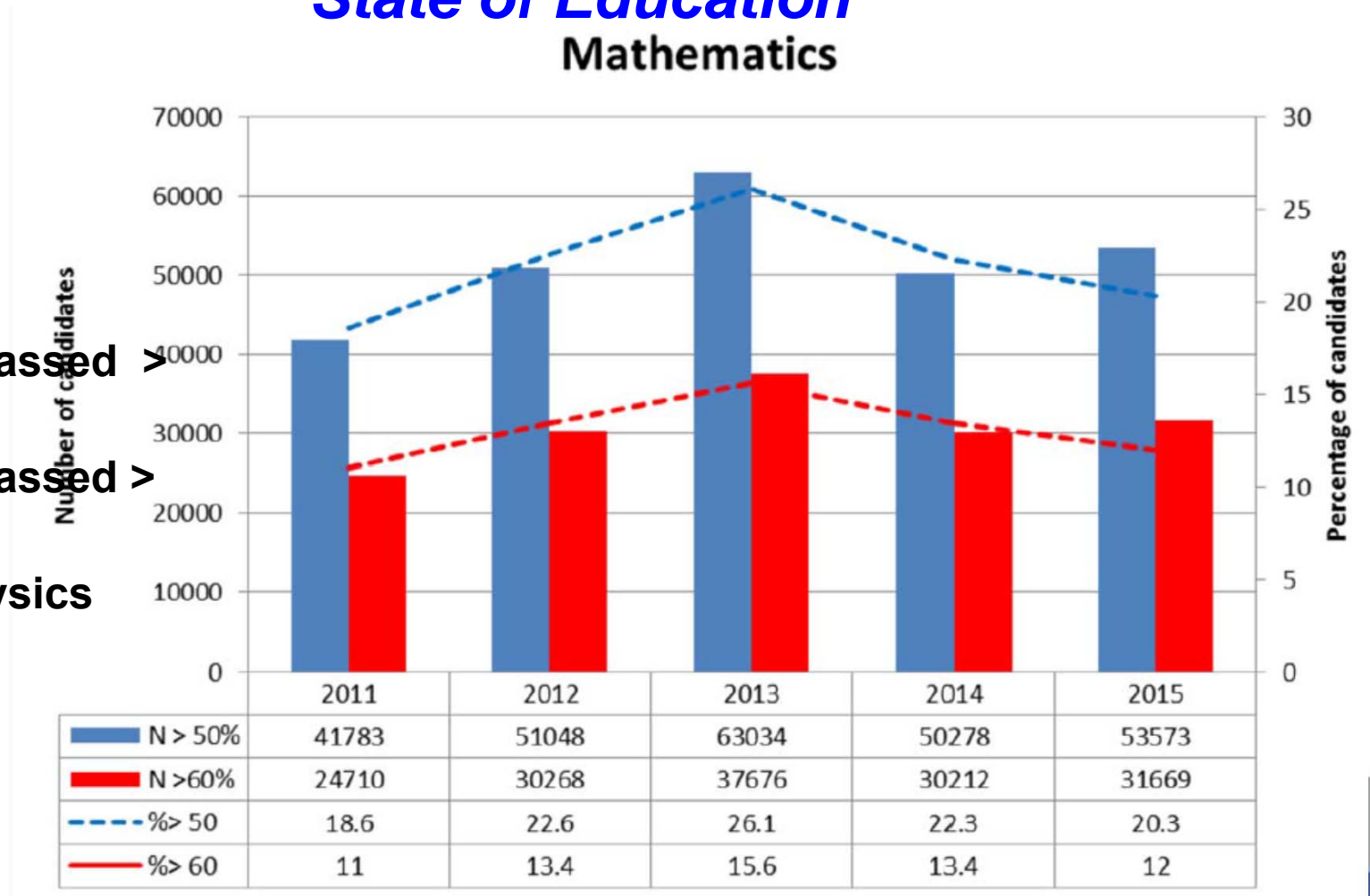


*Source: Dr Allyson Lawless, Numbers And Needs In Local Government – Update 2015, paper presented at the IMIESA conference, October 2016*

# FACING THE NUMBERS

## State of Education Mathematics

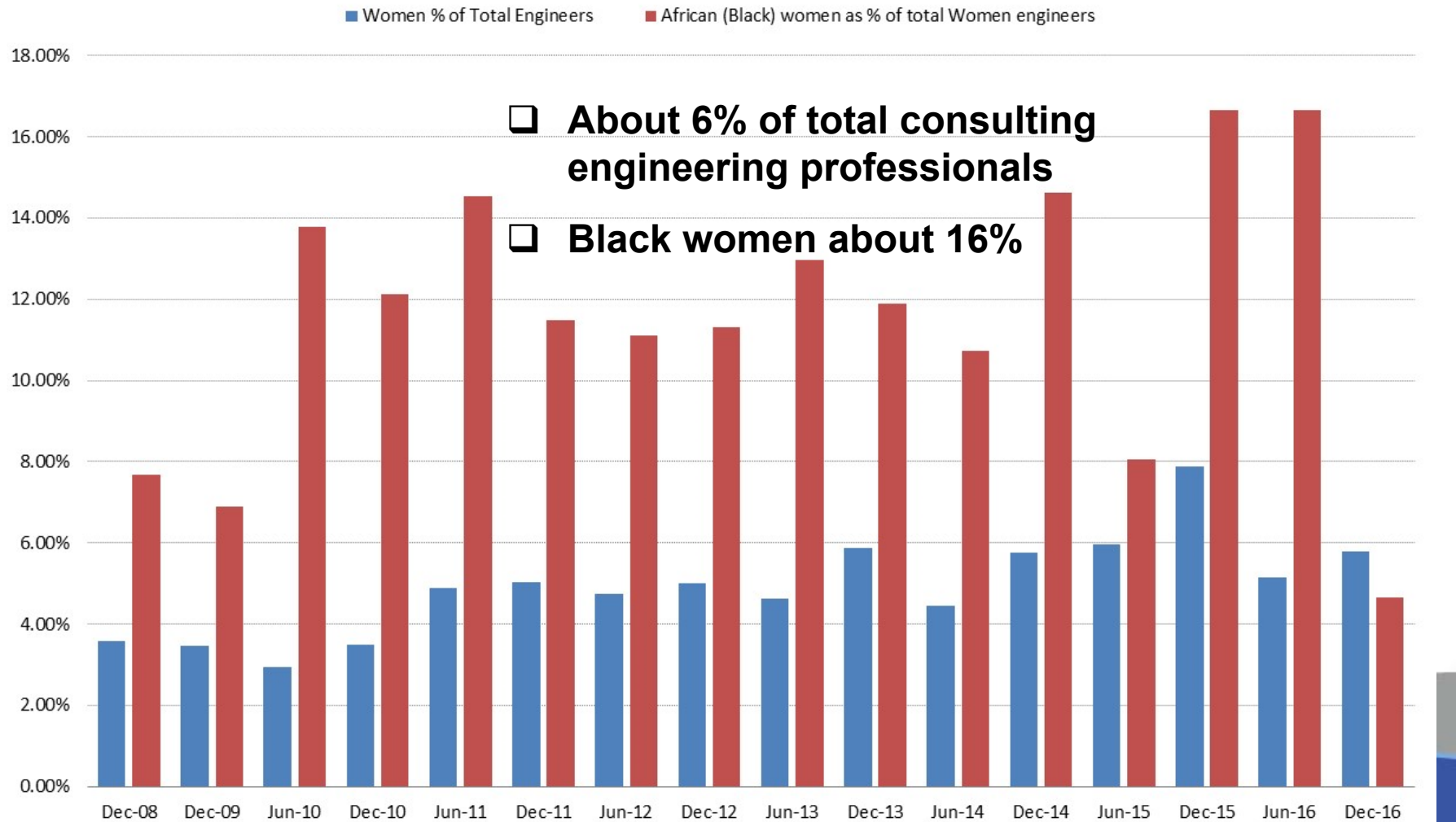
- ☐ About 20% passed > 50%
- ☐ About 10% passed > 60%
- ☐ Same for Physics



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

# FACING THE NUMBERS

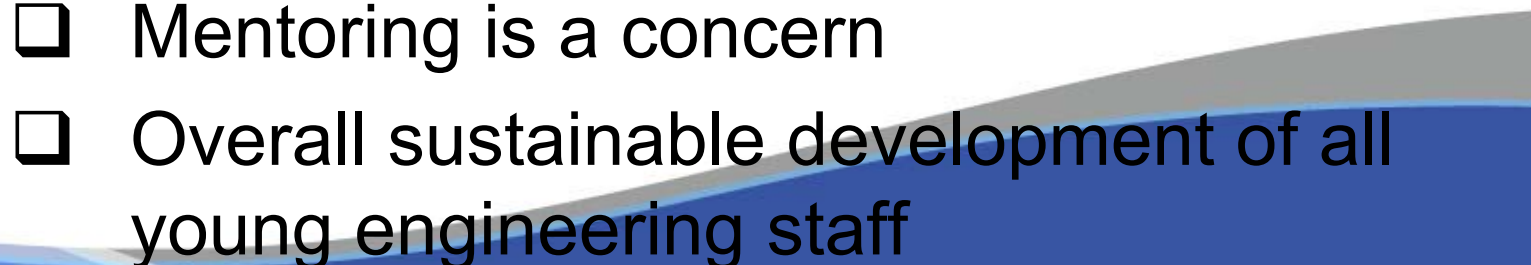
The changing role of female ENGINEERS in the  
South African private consulting engineering industry



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

# FACING THE NUMBERS

## ❑ 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**

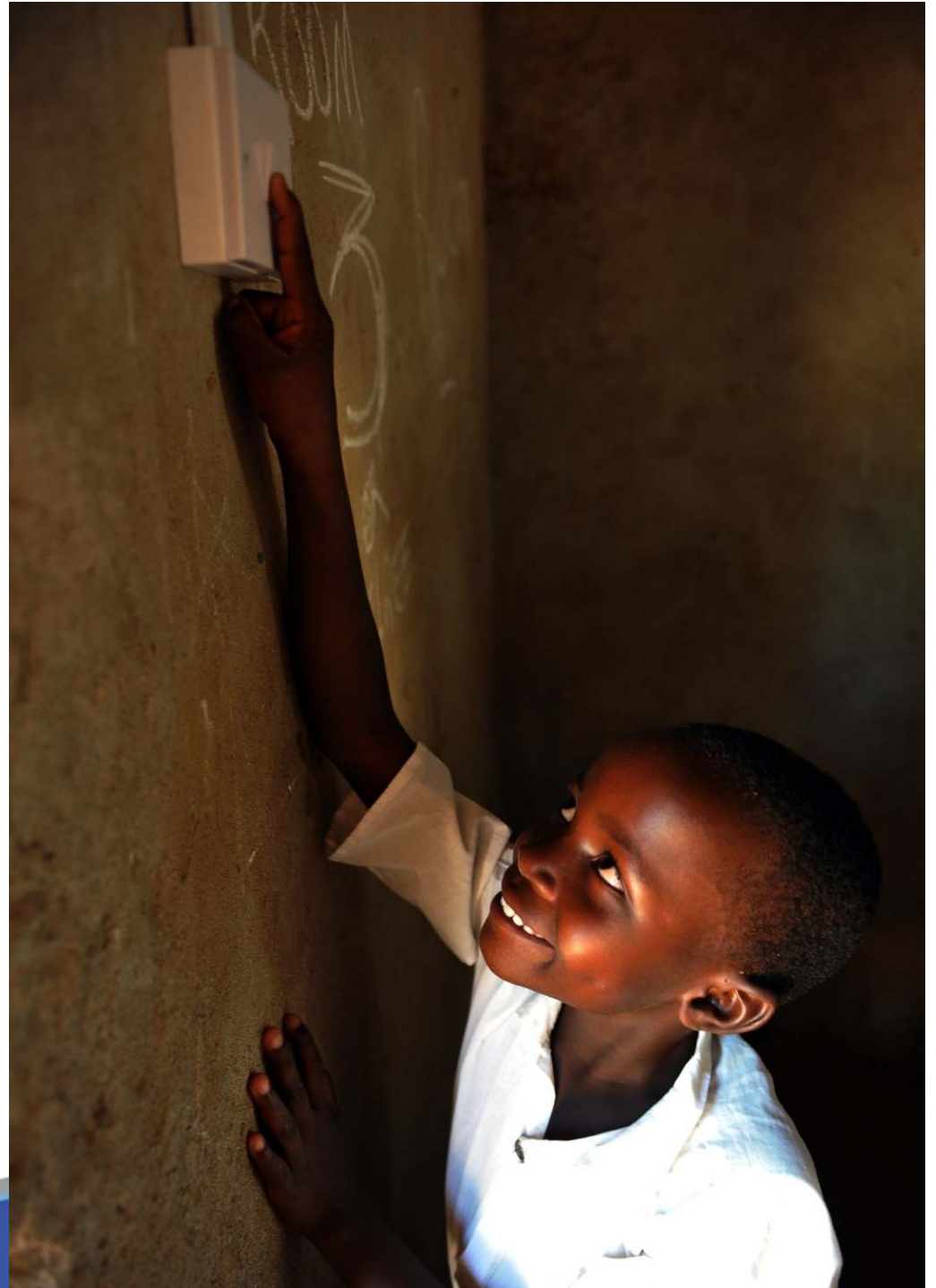


**Transformation is good business**

- ☐ **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**

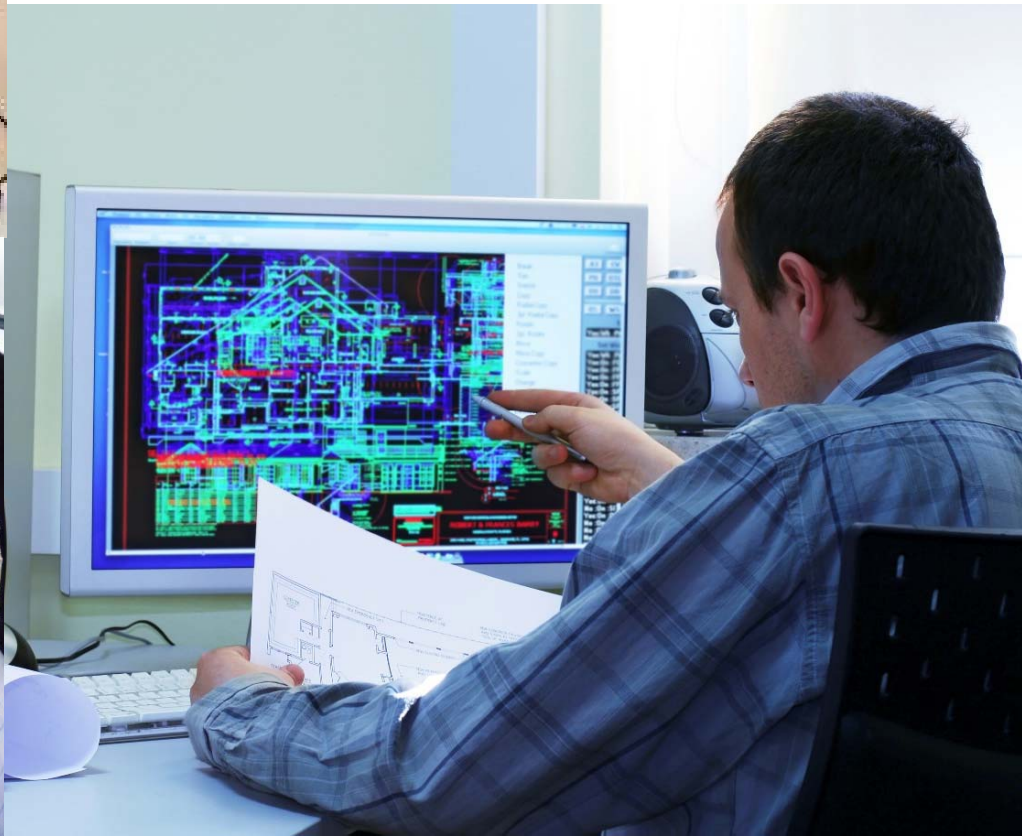




# CESA's APPROACH

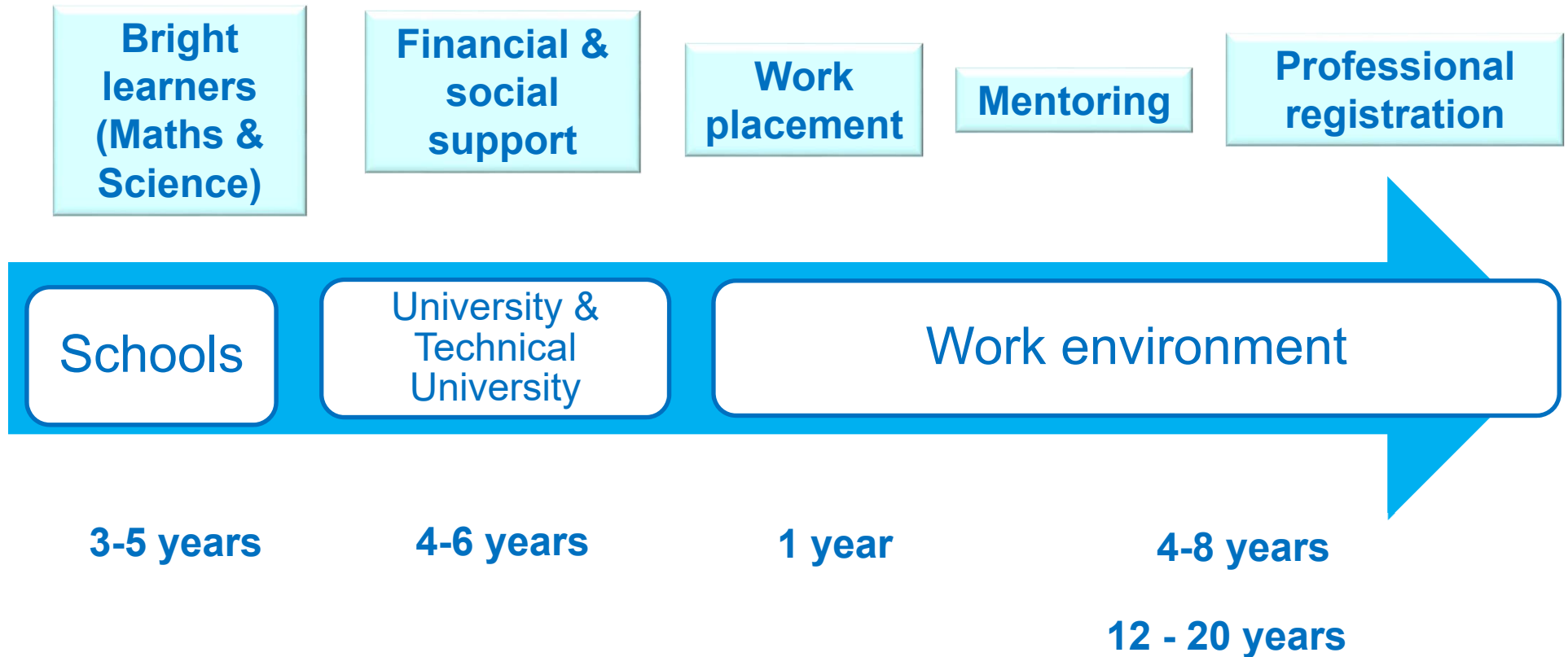


***Get young engineering  
staff professionally  
registered***





# CESA's APPROACH



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

# **CESA's APPROACH**



## **Support to small and medium size business**

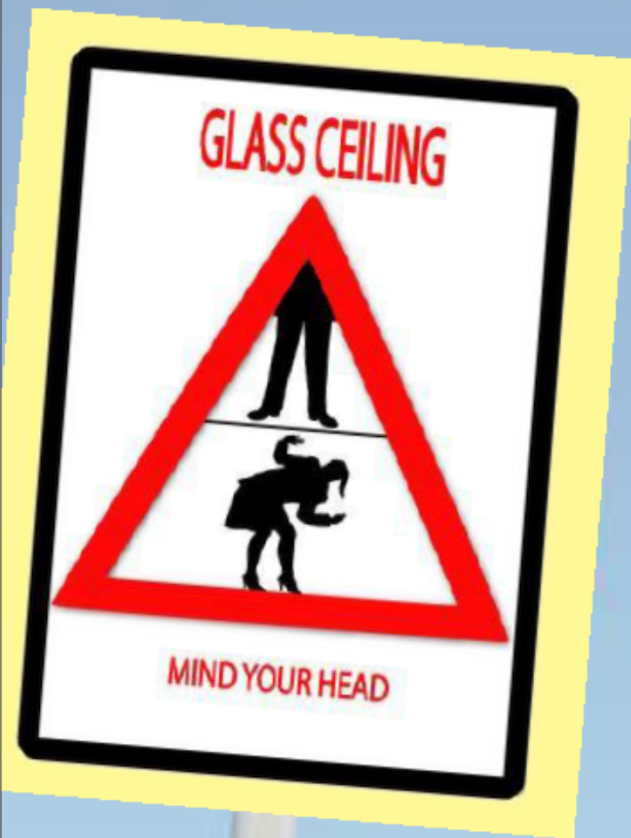
- ☐ **No one size fits all approach**
- ☐ **Incubation program for start-up businesses**
- ☐ **Reduced fees over start-up period**
- ☐ **Database of emerging firms**
- ☐ **Opportunities within joint ventures and sub-consulting agreements**

# CESA's APPROACH

## 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, ....”*

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

# CESA's APPROACH

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



# CESA's APPROACH

- ❑ Develop programs around diversity management
- ❑ Gender-related discussions should form part of mainstream transformation discussions
- ❑ Launch of CESA's Women's Forum



# CESA's APPROACH

## *ATTRACT & RETAIN*

Acknowledge and address barriers

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

# CESA's APPROACH

## IMPROVED MONITORING

Annual declaration forms expanded to include staff demographics







# CESA

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**THANK YOU!**

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