

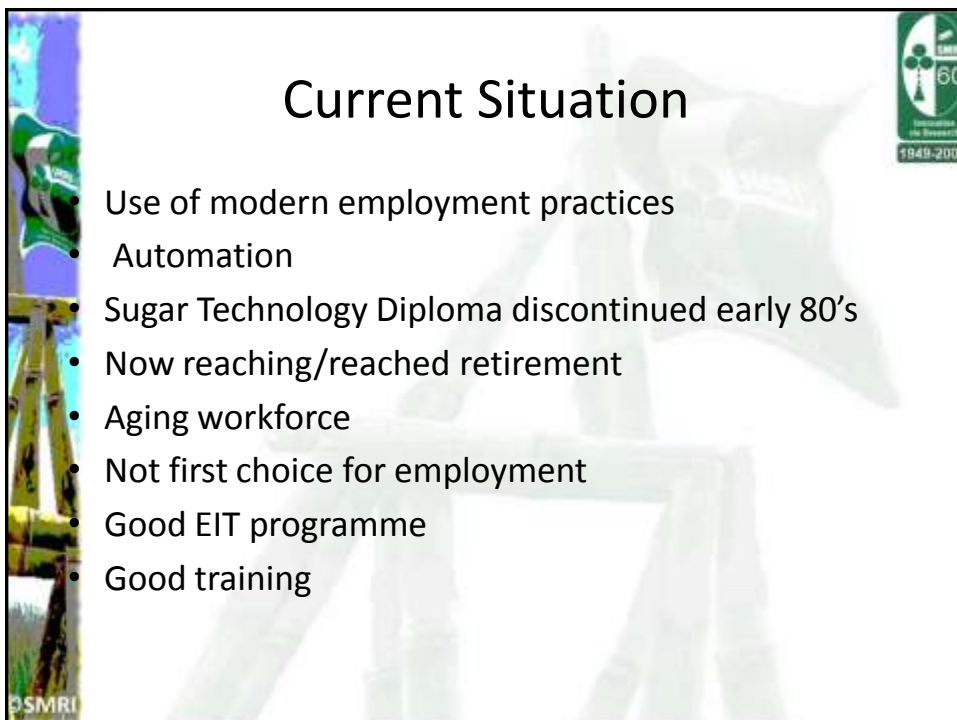


Education: Needs and trends in modern manufacturing practices

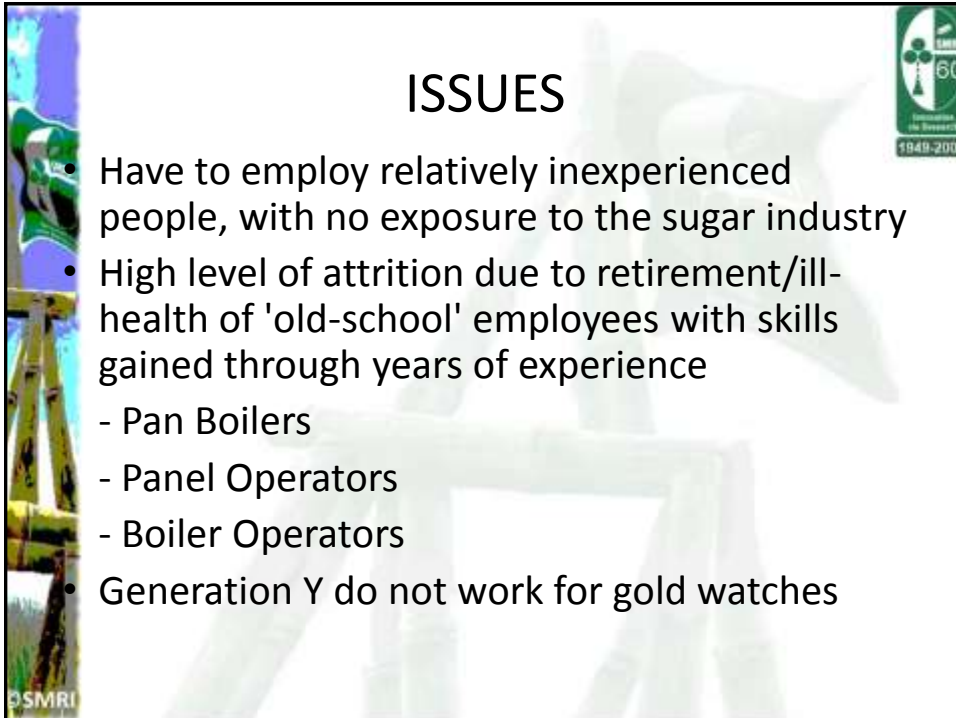
GT Smith

SASTA Working Group on Sugar Industry Skills Development and Shortages and the lack of Technology Adoption
April 2010






Current Situation

- Use of modern employment practices
- Automation
- Sugar Technology Diploma discontinued early 80's
- Now reaching/reached retirement
- Aging workforce
- Not first choice for employment
- Good EIT programme
- Good training





ISSUES


- Have to employ relatively inexperienced people, with no exposure to the sugar industry
- High level of attrition due to retirement/ill-health of 'old-school' employees with skills gained through years of experience
 - Pan Boilers
 - Panel Operators
 - Boiler Operators
- Generation Y do not work for gold watches

AREAS OF CONCERN


- Engineers
 - Electrical Engineering (Heavy Current)
 - Mechanical Engineering
- Process Managers
- Good quality Foremen
- Good quality artisans (esp. Instrumentation)
- Draughtsmen
- Cane Supply Management
- Estate managers in Agriculture
- Safety, Health and Environment Managers.
- Basically everywhere?



Formal Training

- Operator – Shukela Training Centre
- Artisan – ITC, Normal Channels
- Supervisor – ??
- Management – SMRI



Technical Skills Shortage

- South Africa produces about 1 400 engineering graduates a year
(Saturday Star, 25 July 2009, p.5)
- This problem is replicated in other southern African countries, judging by university graduate registrations...



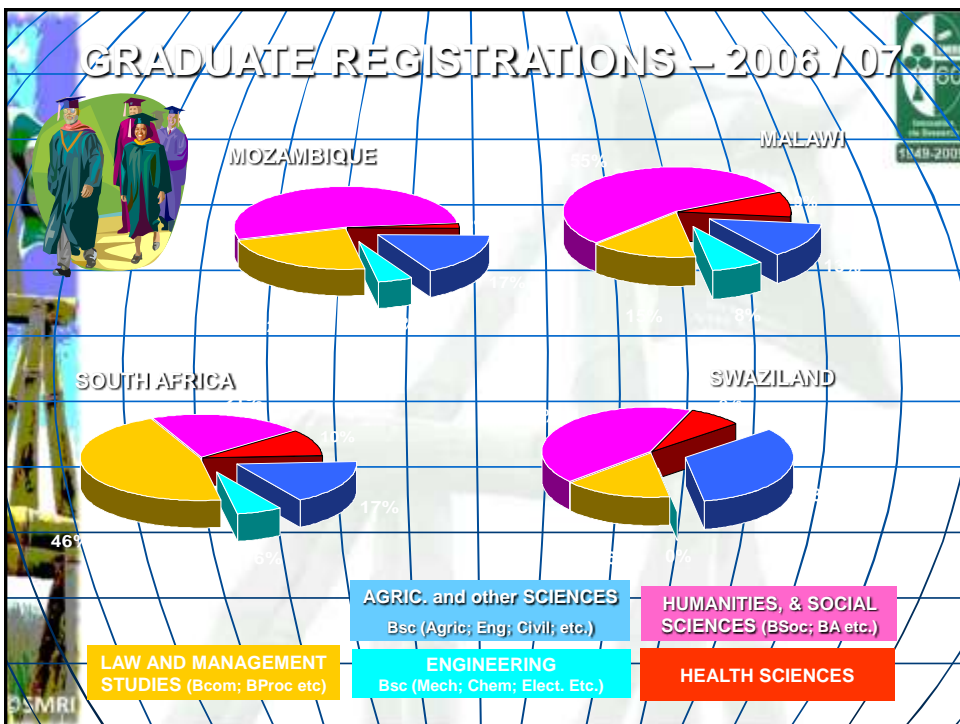
Technical Skills Shortage not a Global Phenomenon

- South Korea, with a similar sized population to SA, produces 30 000 engineering graduates a year
 (Saturday Star, 25 July 2009, p.5)
- India and China together produce about 900 000 engineers each year.
 (Business Report, 24 January 2007)

These countries “...approach the issue of human capital formation as a burning strategic priority of national significance.”

(Business Report 24 January 2007)







Engineering News

26 Feb – 4 Mar 2010



Steel

- The SA steel industry lacks technical and engineering skills and training given that, from 1997 to 2007, only 12,9% of the students enrolled across all engineering courses at universities and technikons achieved a degree or diploma (41 480 of the almost 321 460 enrolments)
- In the past ten years, an average of 1 700 engineers graduated each year
- Is it possible that the number is going to support the growth in these industries?



Engineering News

26 Feb – 4 Mar 2010



Food & Beverage

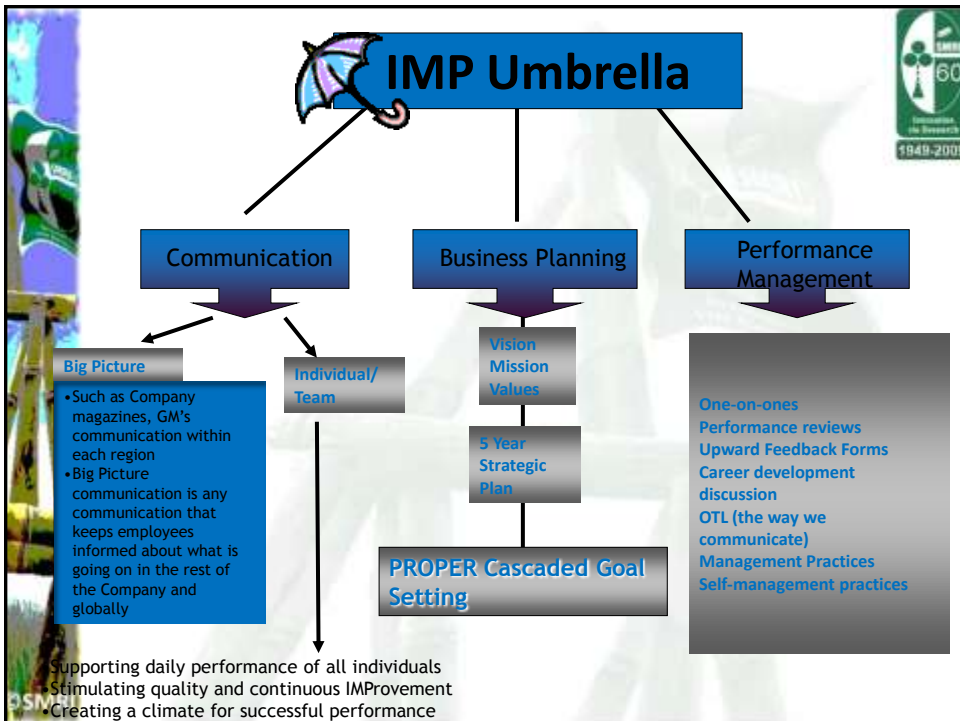
- Hard, dedicated work, quality consciousness and the employment of well-trained and qualified food scientists and technologists are the ingredients needed to ensure that the South African food industry can withstand fierce competition from other countries

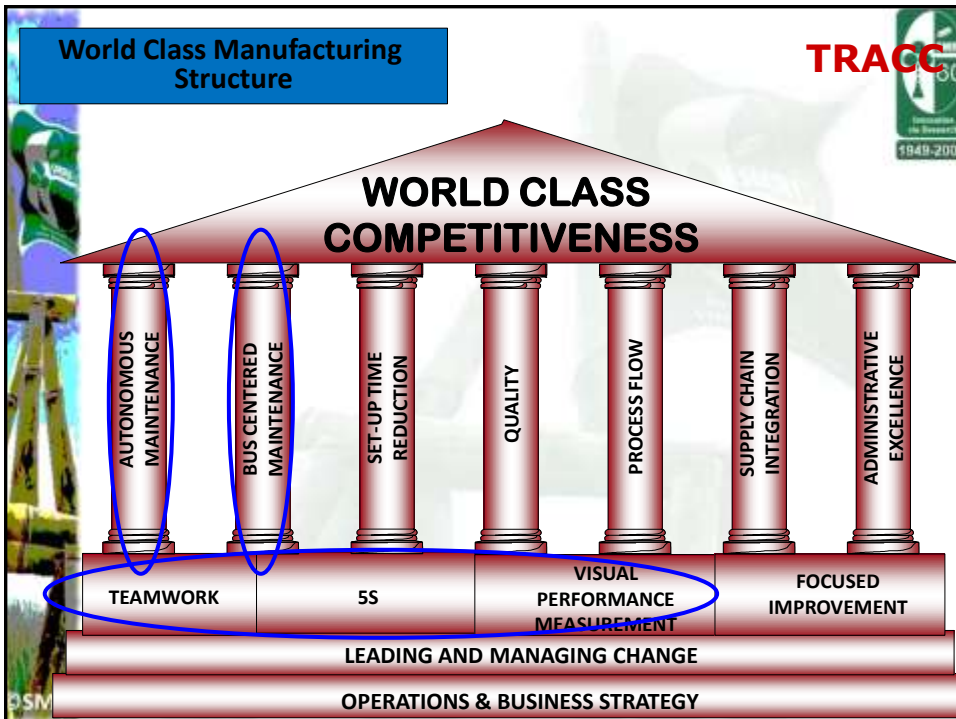
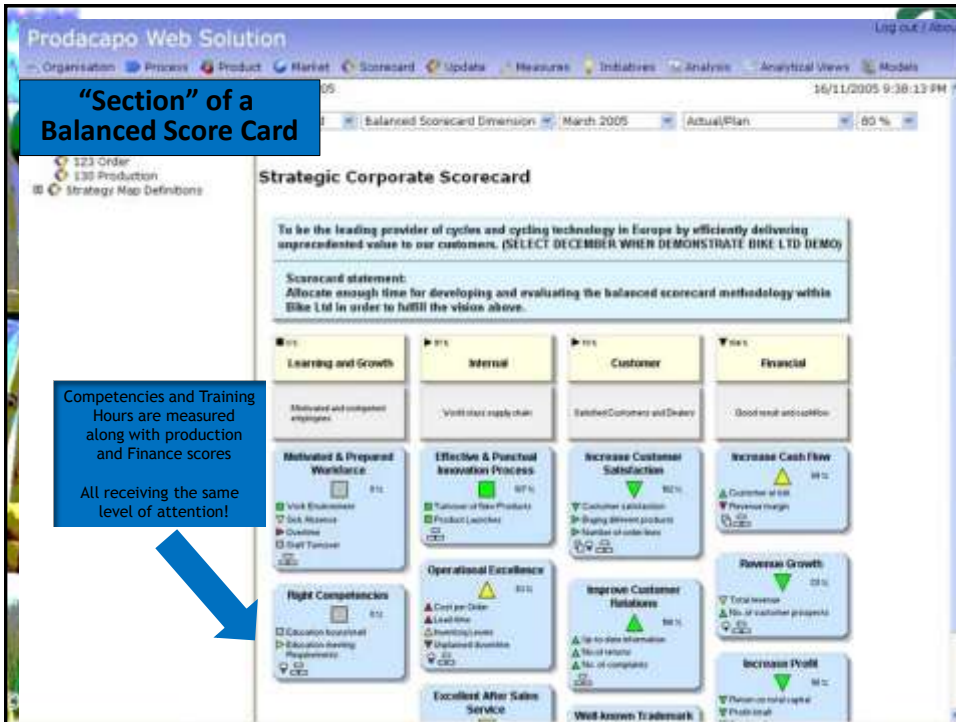
Engineering News 9-15 April 2010

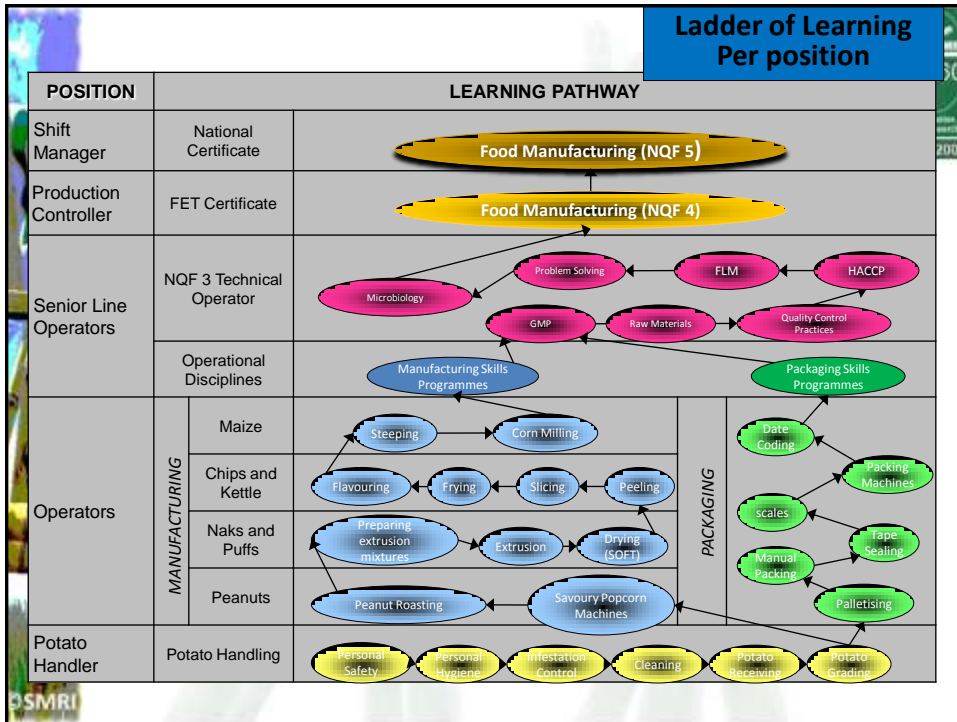


- Foundries, Forges & Die-casting
 - One of the challenges facing the manufacturing industry in South Africa is the skills shortage, which has a great impact on sustainability
- Rail Transport & Infrastructure
 - The shortage of skills and the difficulty in retaining skilled employees
 - Young graduates are more excited by the designing and building anew than managing maintenance









Questions & Comments