



# Picture a Sustainable Future: Australia 2030

Albert Goller

AiGroup National Forum

Parliament House


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# Today's Challenges

## Global megatrends



Climate change



Demographic change



Urbanisation



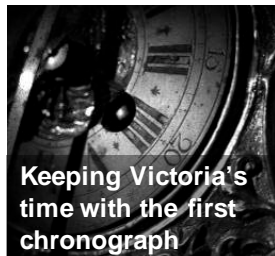
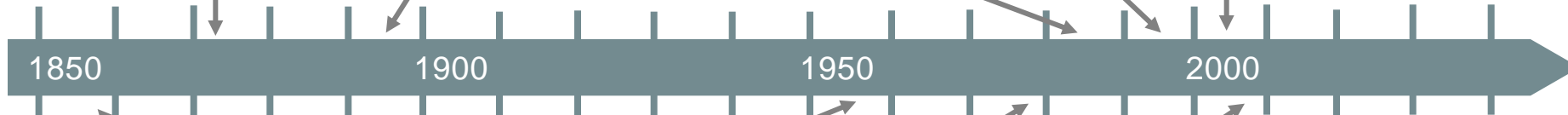
Globalisation

Water Availability	Energy Sustainability
	
Environment Preservation	Healthcare Prevention
	
Productivity Competitiveness	Mobility Accessibility
	
Safety Assurance	Security Protection
	

**Picture a Sustainable Future**  
For Australia and New Zealand  
2030

# Nearly 140 years of innovations in Australia and New Zealand

**SIEMENS**





Australia - world innovator



Seamlessly connected

# Picture the Future



Green economy **PRODUCTIVITY**



**2030** Technology promotes a better

# Productivity

## Importance of productivity

Sustainable Australia



Sustainable economic growth



Productivity and competitiveness



Technology and innovation

**Improving productivity means we can afford more**

**Present**

**Ford Falcon**



**2011**

**\$36,950**

**Can of Coke**



**2011**

**\$1.20**

**Sony TV**



**2011**

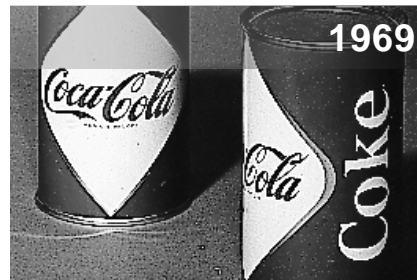
**\$996**

**Past**



**1960**

**\$2,590**



**1969**

**\$0.09**



**1970**

**\$334**

ABS Cat. No. 6302.0 Average Weekly Earnings, Australia, 1960 -2010, ABS  
 ABS Cat. No. 4102.0 Australian Social Trends, 1996, ABS  
 Siemens Market Research

## Improving productivity means we can afford more

Present

Ford Falcon



30 weeks

Can of Coke



2 minutes

Sony TV

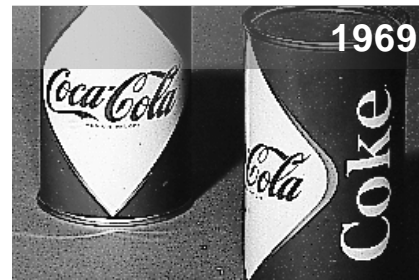


4 days

Past



60 weeks



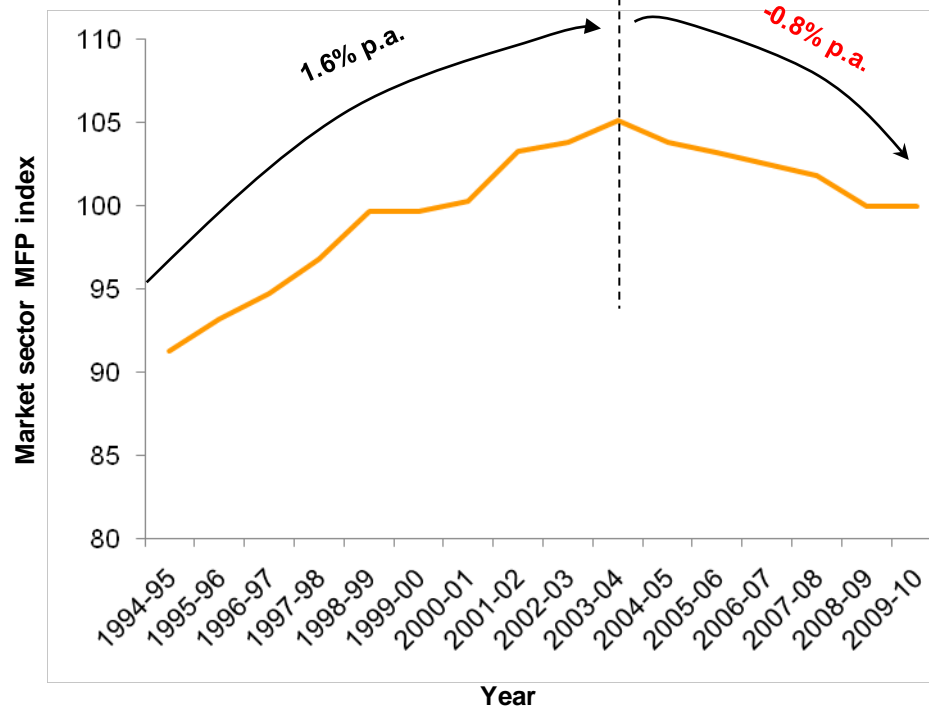
3 minutes



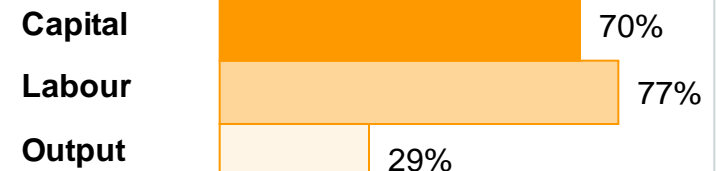
4 weeks

# Australia's productivity is on the decline

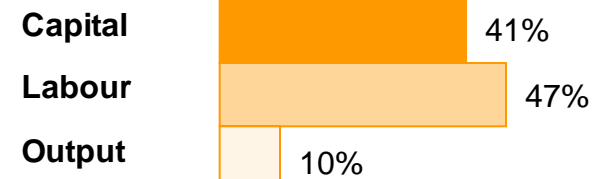
## Market sector\* multi-factor productivity index



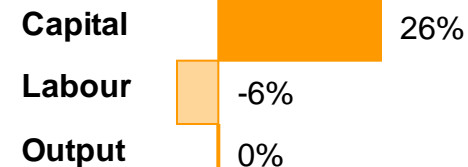
### Mining - 4.6% p.a.



### Electricity, gas, water - 4.3% p.a.



### Manufacturing - 1.2% p.a.



Source: ABS Cat. No. 5260.0.55.002 Experimental Estimates of Industry Multifactor Productivity, Australia: Detailed Productivity Estimates, 2010, ABS.

\*Market Sector excludes Public administration and safety (O); Education and training (P); Health care and social assistance (Q);

# Australia's increasing Healthcare costs

## Also a productivity challenge

**SIEMENS**

Population growth

Ageing population

Obesity

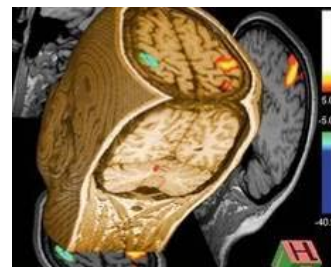
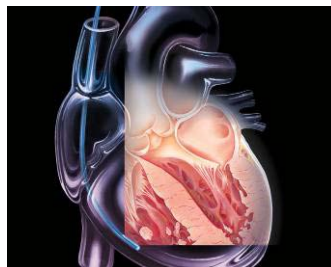
Diabetes

Mental illness

Cardiovascular disease

Cancer

Joint disorders



Expenditure

Expenditure

Expenditure

Expenditure

Expenditure

**↑520%**

**↑342%**

**↑142%**

**↑190%**

**↑223%**

Source: Goss, J., 2008, Projection of Australia's healthcare expenditure by disease, 2003 to 2033

# Australia's healthcare pressures

Population growth

Ageing population

Obesity

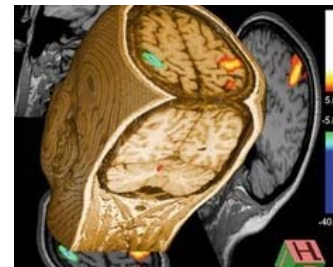
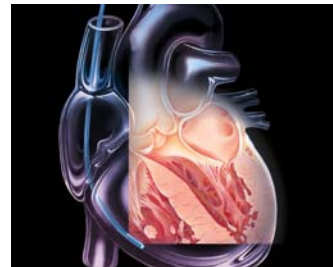
Diabetes

Mental illness

Cardiovascular disease

Cancer

Joint disorders



Productivity loss p.a.

Productivity loss p.a.

Productivity loss p.a.

Productivity loss p.a.

Productivity loss p.a.

**\$4.1  
billion**

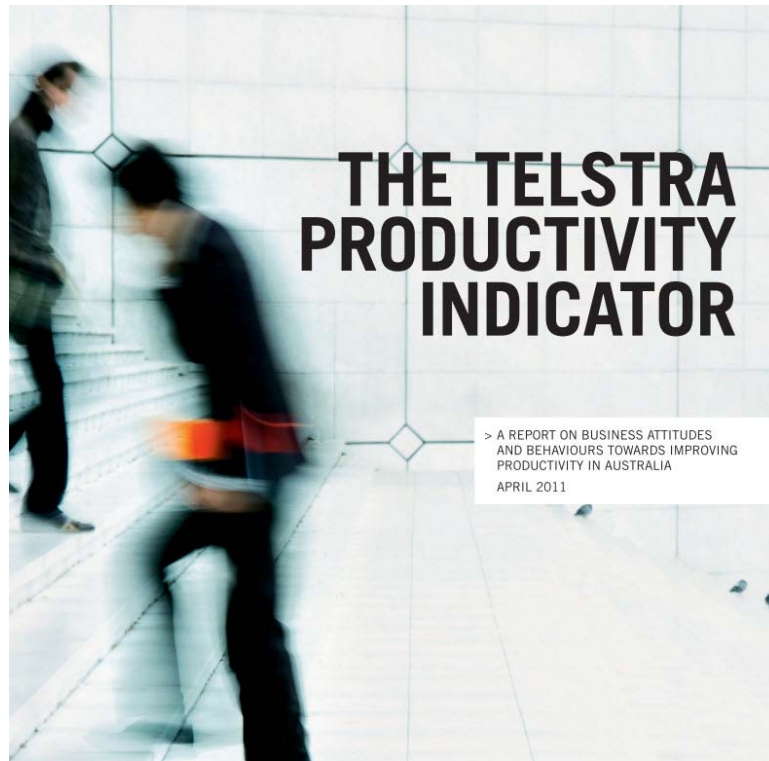
**\$2.3  
billion**

**\$3.5  
billion**

**\$3.3  
billion**

**\$4  
billion**

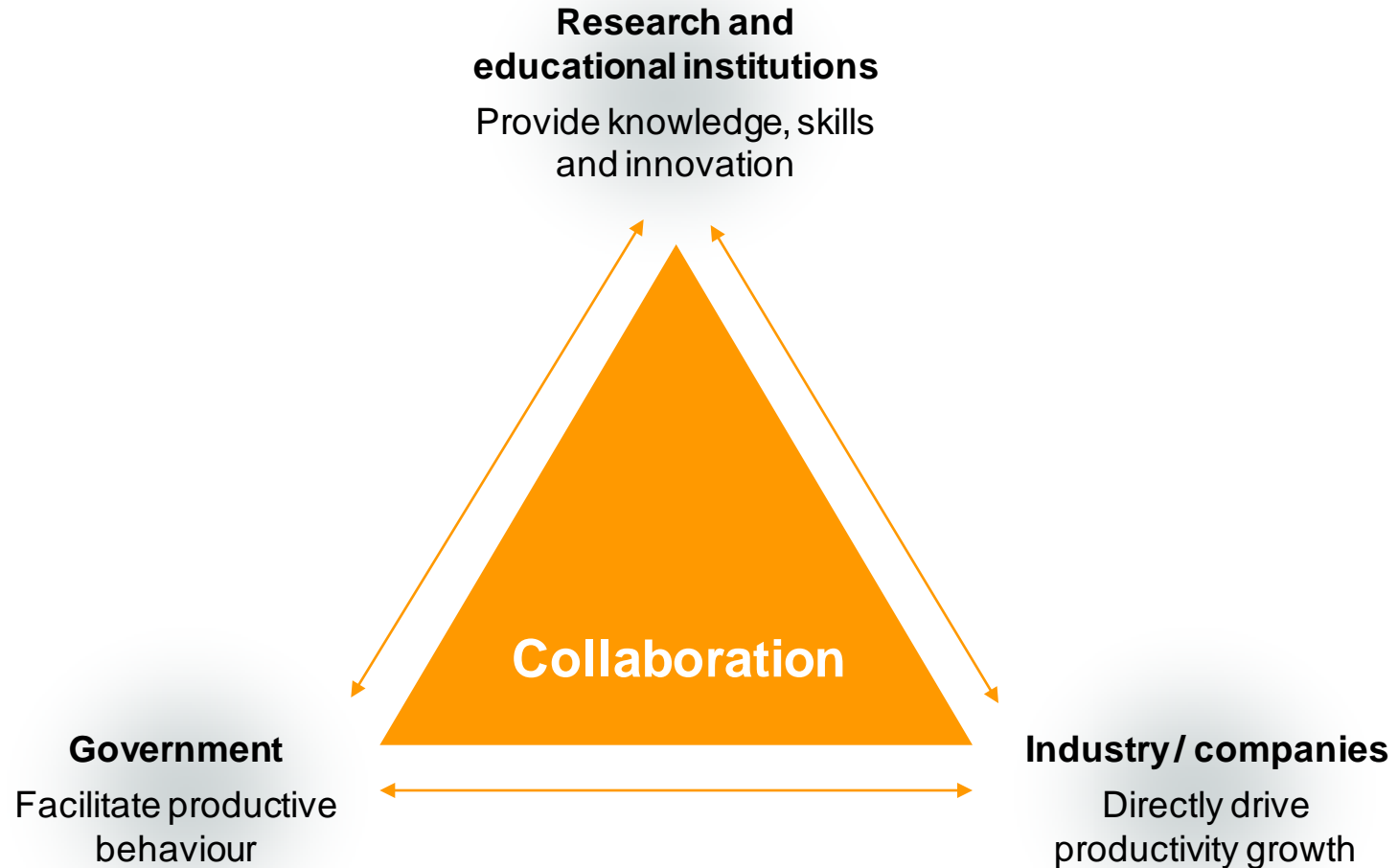
## Telstra's 2011 Productivity Index



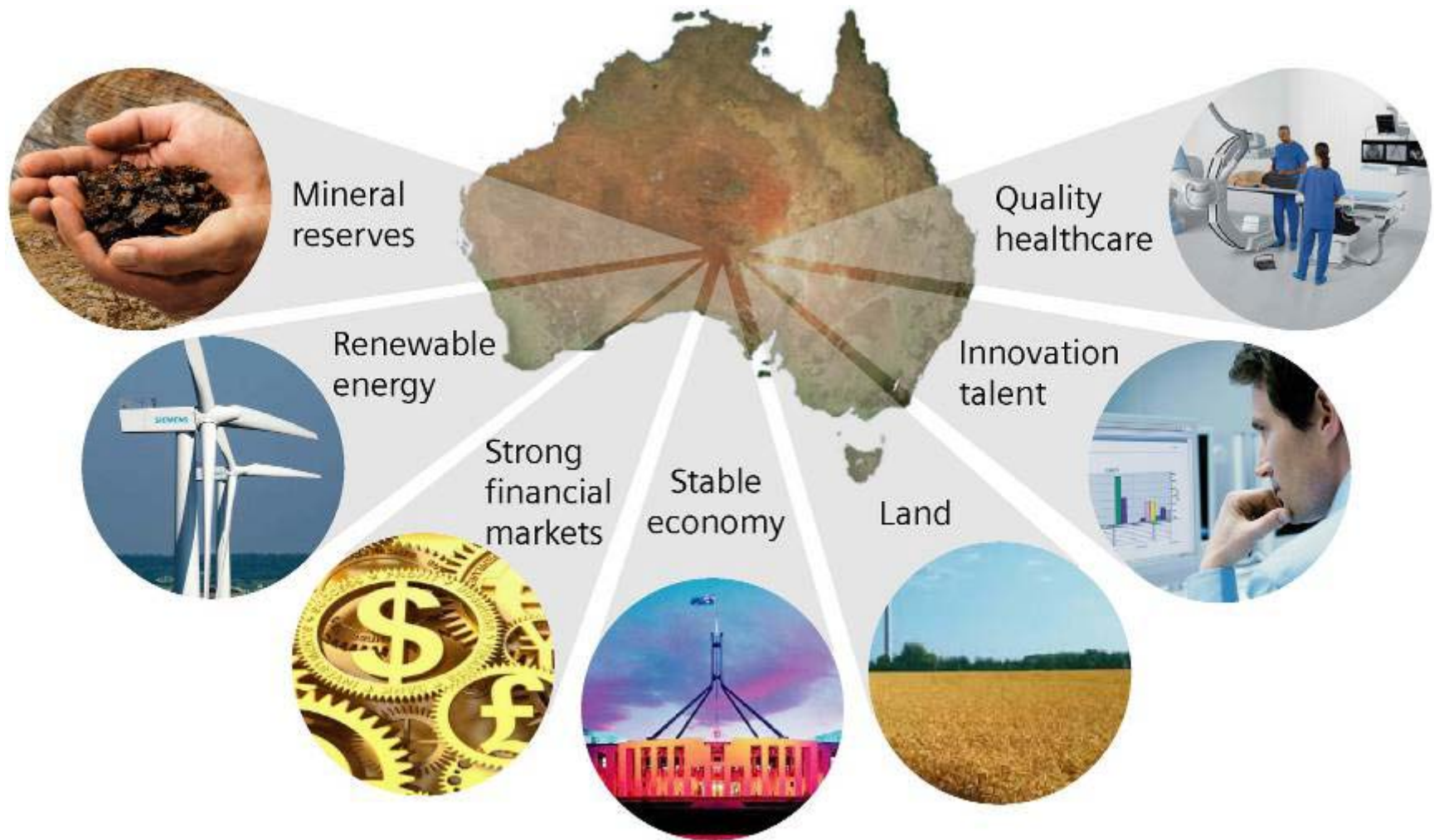
### Productivity in Australia

- Productivity is considered a top priority for **76 per cent** of Australia's private sector and Government organisations
- Of those only **25 per cent** actually measure productivity
- 58 per cent are experiencing a Productivity Improvement Deficit

# How can Australia improve productivity?



# Australia has productivity enablers





# A vision for the future

Improving productivity through technology and innovation

**SIEMENS**

**Digitalisation and automation**



**Freight and logistics optimisation**



**Environmental sustainability**

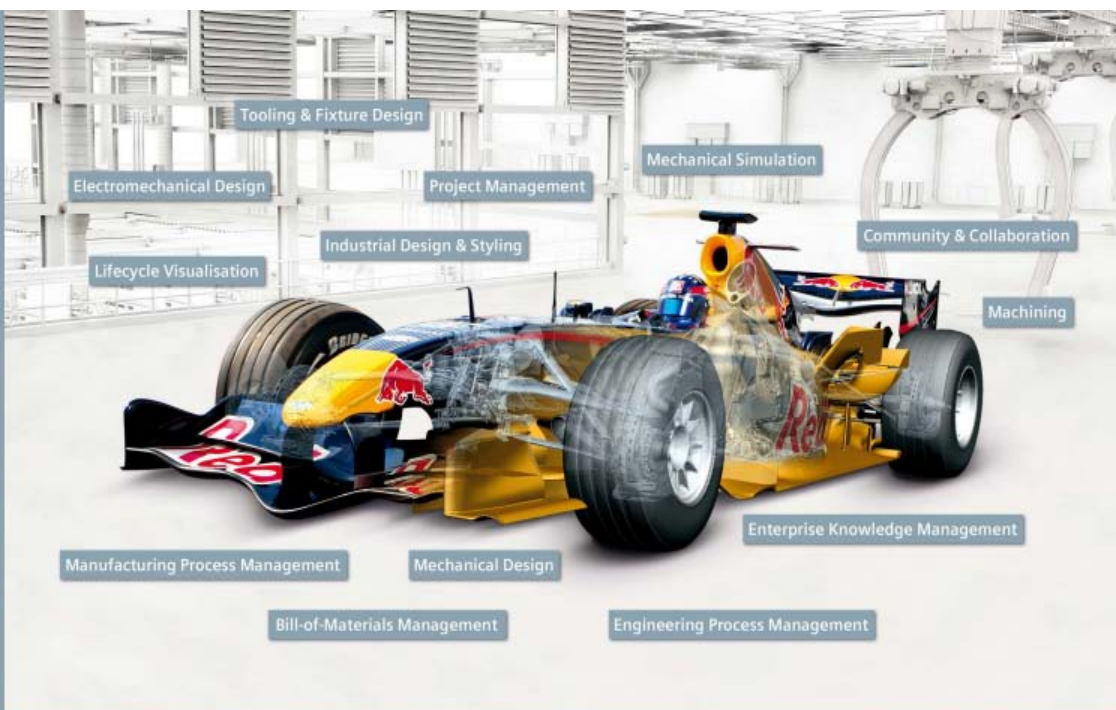


**Collaborative innovation**



**Information and communications technology**

# Red Bull Racing – process lifecycle management



## PLM software at work

- Engineers virtually develop the entire vehicle
- Assemble all 4,000 individual parts and put the vehicle through its paces
- New parts milled and moulded immediately
- Design and manufacturing personnel have saved 75 per cent of their time
- All while sitting at a computer

## Red Bull Racing – Team Centre



### Solution to design bottlenecks and collaboration

- Rapid prototyping and parametric modelling
- Models that are easily changeable
- Key parameters can be changed in seconds
- Collaboration of the engineers across hydraulics, transmission, aerodynamics or electronics
- TEAM CENTRE system

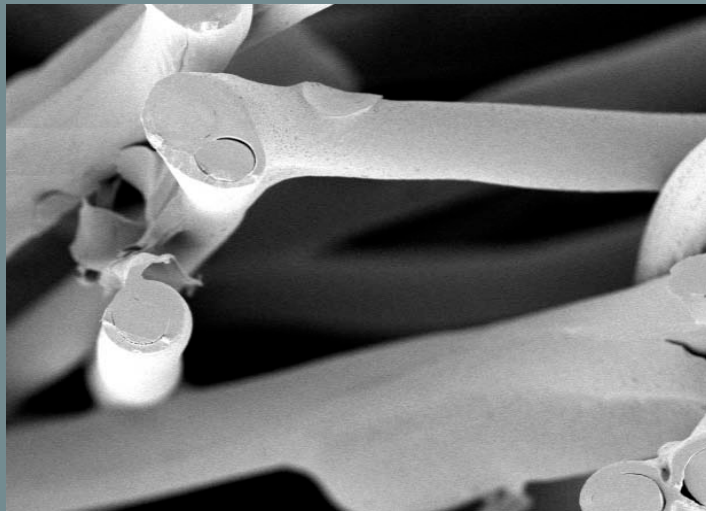
## RMIT Electric Racing



### RMIT collaboration

- RMIT University is a trailblazer in electric vehicle engineering
- Siemens is working with the RMIT to engineer the car
- Donation of the PLM software used for Red Bull Racing to RMIT

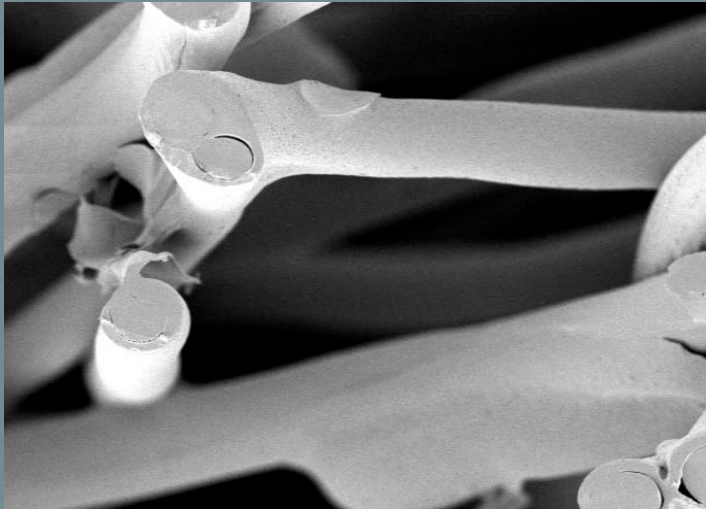
## Textor – Company profile



### History of Textor

- 2000 – Textor bought the company during liquidation
- Textor is a privately owned company specialising in **medical textiles**
- 2001 – \$7million turnover with 60 employees
- 2011 – \$20million turnover with 50 employees

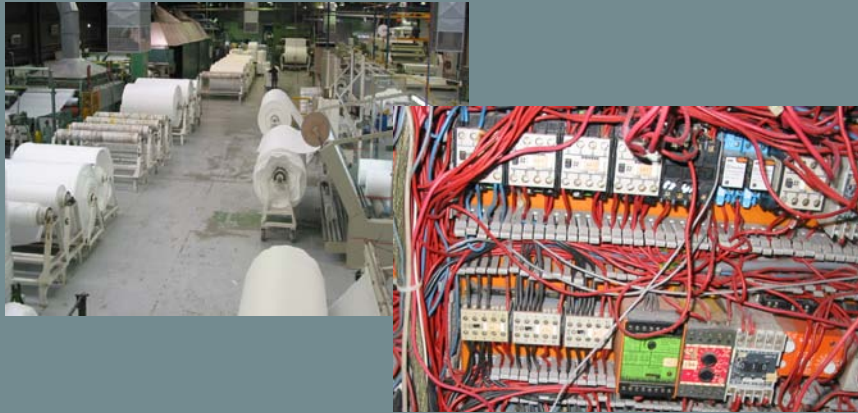
## Textor – key challenges



### Key manufacturing challenges

- World economy and interest rates
- Cost of oil and shipping costs
- Raw materials costs escalating at an alarming rate
- Carbon trading outcome is not understood
- Efficient energy management

## Textor's productivity gains



### Automation install

- Textor increased output from **175kg** throughput per hour to **610kg**
- Downtime on the production line costs Textor **\$1,200 per hour**
- Increase in productivity due to elimination of downtime
- Preventative measures through technology have cut down stoppages
- Diagnostic control of the production line enabled through intelligent technology

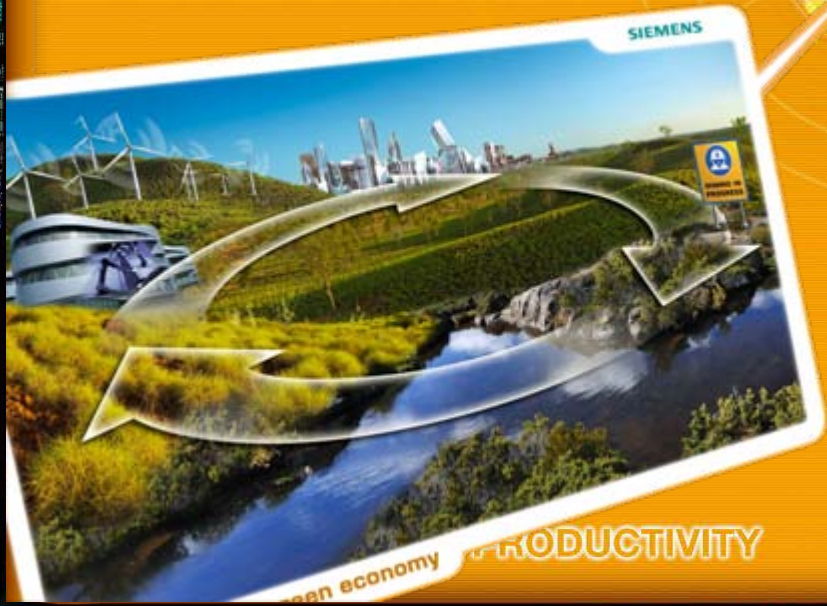


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Green economy PRODUCTIVITY



2030 Technology promotes a healthy