



# SITE VISIT PRESENTATION

November 2007

# Agenda



*Strategic Update*



*Operational Update*



*Appendix 1: Outlook*



*Appendix 2: Alliance Partnering*



# *Strategic Update*

# Group Strategy in Action

## A balanced sector portfolio

### Investments & Concessions

Expansion of concession equity & revenue streams, e.g. power, infrastructure projects,

### INVESTMENT

### Manufacturing & Materials

Higher margin repeat income streams aligned to the construction value chain

### ACQUISITIVE

### Construction

Innovative project delivery at higher margins

### ORGANIC

33% of revenue

#### *New investments:*

- A1 Toll Motorway – Poland
- € 1 billion M6 – Hungary
- Mobile Industrial Power – Africa
- Property portfolio expansion

#### *Recent M&A:*

*Important to take advantages of market opportunities now*

- Acquired Quarry Cats
- Acquired Sky Sands
- Acquired Bernoberg
- Expanding manufacturing product base

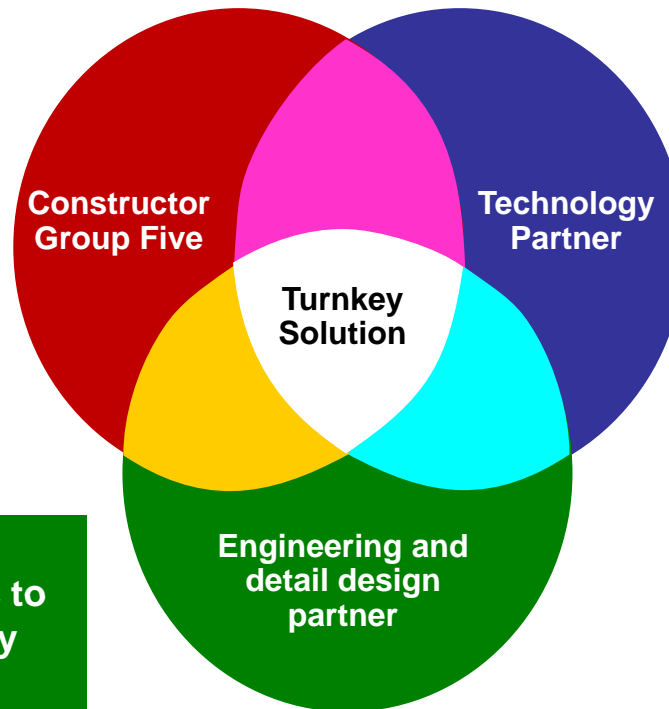
#### *Turnkey projects:*

- King Shaka Airport
- Durban Port widening
- ABA Power IPP
- Ruashi mining project
- Songa Songa oil & gas project

# Innovative project delivery - Alliance Contracting Model

Objective: Securing a bigger share of higher margin projects

Group Five acts as project facilitator, consortium leader and constructor



Selection based on experience specific to the project, capacity and track record

Selected as most suitable for the project

Eg.

Private power

- *General Electric*

Cement plants

- *Thyssen Krupp*

Airports

- *Airbiz*

*Airport, Power, Cement, Oil & Gas and Mining Infrastructure already delivered through this model.*



# Changed pattern of risk assumption on EPC's through Alliancing in a consortium

	EPC contract			Alliance partnering		
	Contractor	Sub-contractors	Client	G5	Partner	Client
Process design risk	Shaded				Shaded	
Detail design risk	Shaded			Shaded	Shaded	
Performance responsibility	Shaded				Shaded	Shaded
Construction responsibility	Shaded			Shaded		
Contract price risk	Shaded			Shaded	Shaded	Shaded





# *Operational Update*

# Update on Key Focus Areas

Key Focus Areas	Progress in F2008	2007 Audited	2006 Audited Restated	Targets
Construction operating margin %#	The group's aim is to retain a 5% margin in the short-term, rising thereafter	3,6	2,8	5,0
Group operating margin %#	Meaningful improvement in group margin due to <ul style="list-style-type: none"> <li>• a 5% construction margin</li> <li>• expansion into construction materials</li> <li>• Any future non-operational transactions will be disclosed separately in future presentations</li> </ul>	5,1	4,1	6,0
Net debt : equity ratio (D:E) %	A higher than targeted short term D:E equity ratio is expected due to additional capex and acquisition funding	36,9	-	33,0
PBIT Interest cover (x)	Indications are that interest cover will be below 10 in the short term <ul style="list-style-type: none"> <li>• group's cash flow and capital raising plans take full cognisance of this</li> </ul>	9,9	5,6	n/a



*# For comparative purposes, note that certain competitors report operating margins before accounting for certain overheads, whereas G5 reports margins after all overheads*

# Update on Key Focus Areas

Key Focus Areas	Progress in F2008	2007 Audited	2006 Audited Restated	Targets
Cash and working capital (Rm)	<p>Cash remains an area of focus</p> <ul style="list-style-type: none"> <li>• each contract is monitored on an individual basis for margins &amp; cash</li> <li>• Advance payments expected on large contracts</li> <li>• Increasing exposure to manufacturing and construction materials activities that require working capital investment</li> <li>• Work continues towards showing improved cash after working capital by interim stage</li> <li>• Recent smaller acquisitions have been funded via cash from operations</li> </ul>	60	391	Cash = profit
Return on shareholders interest %	The group's strategy is designed to achieve this target in the medium-term	17% *	11%	25%



# Updated Construction order book

## – 12 month secured\* as at 30 September 2007

Rm	2007 (Actual)	F2008 order book @ 1 July 07	Current 2008 order book	Margin F2008	Estimated Capacity
Building & Housing	3 122	1 883	2 320	↑	2 900
Civil Engineering	2 484	2 215	2 624	↑	3 200
Engineering Projects	794	735	1 102	↑	1 200
<b>Total</b>	<b>6 401</b>	<b>4 833</b>	<b>6 046</b>		<b>7 300</b>

Order book emphasis is focused on higher margin areas of activity rather than higher turnover.

However the order books contains some older projects which are still in progress

~~A few older contracts are at completion stage & undergoing commercial resolution~~



\* For comparative purposes, note that certain competitors report > 12 months secured order book

# New Projects Recently Secured

Project	Value	G5 Stake	Start Date	Duration
Housing Scheme for Police Force and Army Officers - Dubai, Middle East	R2,3bn	R1,5bn	Nov 2007	18 months
Comment: Contract awarded at good margins, upfront payments obtained				
Construction of Inyoni Retirement Village Phase 2 - South Africa	R100m	R100m	Sept 2007	17 months
Comment: Contract awarded at higher margins than previously seen, no upfront payments obtained				
Construction of laboratories, auditorium and offices - University of Western Cape – South Africa	R311m	R311m	Sept 2007	24 months
Comment: Contract awarded at higher margins than previously seen, no upfront payments obtained				



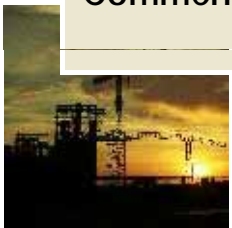
# New Projects Recently Secured

Project	Value	G5 Stake	Start Date	Duration
Songa Songa Island Train 3 and 4 gas processing facility – Songa Songa	R196m	R196m	Jan 2008	12 months
Comment: Piping expansion of the gas processing facility, good tendered margins and upfront payments secured. Songa Songa is located 200km SE of Dar-Es-Salam				
N17 Link Road for SANRAL – South Africa	R316m	R316m	Sept 2007	26 months
Comment: Design and Construct of new road and bridges, good margin, no upfront payment				



## Current Significant Projects: Progress to date

Project	Value	G5 Stake	Start Date	Duration
Moses Mabhida Soccer Stadium	R2,0bn	35%	Jan 2007	2,5 years
Comment: Contract on track				
King Shaka International Airport	R6,8bn	37%	June 2007	3,0 years
Comment: Contract on track				
Four Seasons Hotel Mauritius	R380m	50%	Aug 2006	1,0 year
Comment: Contract running well, we have been awarded an additional 10 luxury villas worth approximately R140m which must be completed by October 2008				
Department of Education New HO	R322m	40%	Apr 2007	2,0 years
Comment: Contract running well, mark up is lower than current market as negotiations were 4 years old				
Ruashi Phase 2 – DRC	R374m	100%	Sept 2006	2,0 years
Comment: Contract is running extremely well, Overall the project is at 60% of completion.				



## Current Significant Projects: Progress to date

Project	Value	G5 Stake	Start Date	Duration
Dubai Duty Free Warehouse	R424m	100%	Dec 2006	1,5 years
Comment: Project complete; Expected margins achieved				
Dubai Terminal 2 expansion	R577m	100%	Oct 2006	1,5 year
Comment: Project underway, some delays experienced				
Tenke Fungurume – Copper Mine DRC	R170m	100%	July 2007	1,3 years
Comment: Commenced with mobilisation and procurement on the project. The installation work commences in the new calendar year				
Durban Harbour: Entrance widening	R1,8bn	65%	May 2007	3,0 years
Comment: Contract started slowly but activities are underway and productions are at or above the level required in terms of the programme.				
ABA Power Project: Open Cycle Gas Turbine	R458m	100%	Oct 2007	1,5 years
Comment: Delay in signing of contract has resulted in contract to commence in January 2008 instead of October 2007				



# Group Strategy in Action

## A balanced sector portfolio

<b>Investments &amp; Concessions</b>	<b>Manufacturing &amp; Materials</b>	<b>Construction</b>
Expansion of concession equity & revenue streams, e.g. power, infrastructure projects,	Higher margin repeat income streams aligned to the construction value chain	Innovative project delivery at higher margins
<b>INVESTMENT</b>	<b>ACQUISITIVE</b>	<b>ORGANIC</b>

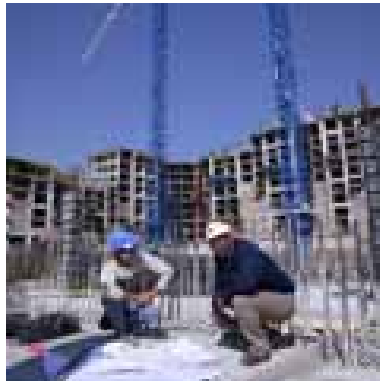
33% of revenue

<p><b><i>New investments:</i></b></p> <ul style="list-style-type: none"> <li>• A1 Toll Motorway – Poland</li> <li>• € 1 billion M6 – Hungary</li> <li>• Mobile Industrial Power – Africa</li> <li>• Property portfolio expansion</li> </ul>	<p><b><i>Recent M&amp;A:</i></b>  <i>Important to take advantages of market opportunities now</i></p> <ul style="list-style-type: none"> <li>• Acquired Quarry Cats</li> <li>• Acquired Sky Sands</li> <li>• Acquired Bernoberg</li> <li>• Expanding manufacturing product base</li> </ul>	<p><b><i>Turnkey projects:</i></b></p> <ul style="list-style-type: none"> <li>• King Shaka Airport</li> <li>• Durban Port widening</li> <li>• ABA Power IPP</li> <li>• Ruashi mining project</li> <li>• Songa Songa oil &amp; gas project</li> </ul>
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# G5 Construction Materials

*Tim Woodhead*



## *Appendix 1: Outlook*

# Introduction to Market Outlook

## Balanced Geographic Portfolio

- 🏗️ G5 has an established track record in its non-SA areas of operation in Africa, the Middle East and Eastern Europe
- 🏗️ A small share of these markets, carefully chosen and well managed, should achieve higher margins

G5 maintains the ability to gear up quickly to take advantages of opportunities as the SA market improves, but it's geographic diversity is a hedge against slow SA infrastructure rollout



# Market Outlook – MIDDLE EAST

*Mainly Civil work with expansion into Engineering Project work*

- ☒ G5 Operations (established in early 2004 in partnership with Al Naboodah, the largest local contractor) have now progressed to a JV
- ☒ Strong, sustainable regional economic growth, compound growth of 13% since 2000
- ☒ G5 focus in the region is Civils work in the United Arab Emirates
- ☒ Expansion into mechanical electrical piping (MEP) work is scheduled for F2008

*United Arab Emirates:*

Abu Dhabi, Dubai,  
Sharjah Ajmah, Umm Al-  
Qaiwain,  
Ras Al-Khaimah and Fujairah



# *Mega cargo terminal AX101 – Dubai*



# *Jebel Ali Airport Tunnel Entrance– Dubai*



# Market Outlook – **EASTERN EUROPE**

## *Mainly Concession work*

- G5 focus:** Toll road operations and investment, with substantial international partners such as Bouygues and Skanska
- Pursuing further toll road opportunities** in partnership with well-established international groups such as Skanska and Strabag
- Sustainable growth opportunities through:**
  - Capitalizing on G5's (Intertoll) established reputation in the region
  - The definitive trend towards tolling of vehicles for the use of highways



# Snow Plough Fleet – Poland



# Market Outlook – AFRICA & SOUTH AFRICA

## Civil, Building and Engineering Project work

- Transportation
  - Roads \*
  - Airports \*
  - Rail \*
  - Ports \*
- Power
  - Public \*
  - Private \*
- Mining & industrial \*
- Oil & gas \*
  - West, Emerging East & Southern Africa
- Communications and Telecom
- Public buildings & housing \* ^
- Waste, Water and Environment \* ^



\* Group 5 target markets

^ South African focus



# Market Outlook - **AFRICA**

## *Mainly Civil and Engineering Project work*

- 250% increase in world population to 6,7 billion in last 50 years
  - Mainly in emerging economies lead by China and India
  - Per capita income expected to grow from \$200 pa and to reach \$15,000 - \$50,000 pa over the next 30 years
- Hence the rush for resources, many of which are in Africa, to sustain an expanding world population with improving wealth
- Sustainable long-term demand in the resources sector is driving infrastructure spend in many African markets



# Market Outlook - AFRICA

## *Mainly Civil and Engineering Project work*

- Private Sector infrastructure spend on resources in Africa is a key G5 target market
  - Above-average margins
  - Provides opportunity across a single project as we move to turnkey solutions
  - Provides a check against slow delivery by government of infrastructure projects in SA
- Public Sector infrastructure spend in Africa is not a G5 target market
  - Sovereign, payment, governance and logistical risks
  - Will only do under strict conditions



# G5 Perspective of Opportunities in Selected Countries



Sector	Targeted Projects	Secured Projects
Transport	R33,5bn	R5,0bn
Power	R21,7bn	R2,9bn
Mining	R5,2bn	R2,0bn
Industrial	R6,4bn	R0,8bn
Oil & Gas	R2,8bn	R0,2bn
<b>Total</b>	<b>R69,6bn</b>	<b>R10,9bn</b>

<b>Mali</b>	• Gold
<b>Ghana</b>	• Gold • Bauxite • Power
<b>Benin</b>	• Power • Cement
<b>Nigeria</b>	• Oil & Gas, LNG • Power • Infrastructure • Building • Housing • Cement
<b>Congo ROC</b>	• Potash • Forestry • Power generation
<b>Congo DRC</b>	• Cobalt • Copper • Building • Roads

<b>Angola</b>	• Cement • Port
<b>Namibia</b>	• Uranium • Oil & Gas • Building • Water
<b>Botswana</b>	• Power generation • Diamonds • Gas • Water
<b>Zambia</b>	• Copper/Cobalt • Cement
<b>Tanzania</b>	• Gold • Oil • Power Generation

<b>Madagascar</b>	• Mineral sands • Mining • Roads/Infrastructure
<b>Mozambique</b>	• Mineral sands • Coal • Gas • Power generation
<b>South Africa</b>	• Power generation • Nuclear power • Coega development • 2010 soccer • Airports • Transport • Water • Housing • Building • Cement • Aluminium • Coal



# Transport Projects *Current Group 5 three-year view in targeted markets*



^ Partially / secured work

\* Target

Value of G5 target projects = R16,5bn

Value of G5 secured projects = R2,4bn

South Africa	G5	Total
<b>Roads</b>		
* Sanral Gauteng Network	R4,6bn	R23bn
Jhb Metro Rea Vaya Bus Rapid Transport	-	R500m
^ Sanral N1/N2 Winelands	R1,2bn	R4bn
* Sanral N2 Wild Coast	R1,9bn	R5bn
* Sanral Khulani Corridor	R350m	R350m
<b>Ports</b>		
Transnet Cape Town Container Terminal	-	R1,5bn
Transnet Ngqura Container Terminal	-	R1,6bn
Transnet Ngqura Manganese Terminal	-	R1,0bn
^ Transnet Durban Harbour Entrance Widening	R1,2bn	R1,8bn
Transnet Durban Point Car Terminal	-	R1,0bn
* Transnet Durban Container Terminal	R6,0bn	R12,0bn
* Transnet Richards Bay Container Terminal	R150m	R300m
* Transnet Richards Bay Dry Bulk Terminal	R1bn	R2bn
* Transnet Port Elizabeth Terminal Facility	R2,5bn	R5bn



# *Durban Harbour Entrance Widening & Deepening – South Africa*



**Group Five partnering with Belgium based  
Dredging International**



# *Durban Harbour Entrance Widening & Deepening – South Africa*



**Group Five partnering with Belgium based  
Dredging International**



# Transport Projects

Current Group 5 three-year view in targeted markets



South Africa	G5	Total
<b>Rail</b>		
Metro Rail Platform Upgrades	-	R2bn
* Bombela Gautrain Sub Contracts	R1,5bn	R15bn
* Transnet Sishen Saldanha Ore Line	R6bn	R12bn
<b>Airports</b>		
* ACSA OR Tambo Central Terminal	R9,5bn	R19bn
^ ACSA King Shaka Airport	R2,6bn	R7bn
ACSA George	-	R50m
ACSA East London	-	R300m
ACSA Cape Town International Upgrade	-	R1bn

^ Partially / secured work

\* Target

Value of G5 target projects = R17bn

Value of G5 secured projects = R2,6bn

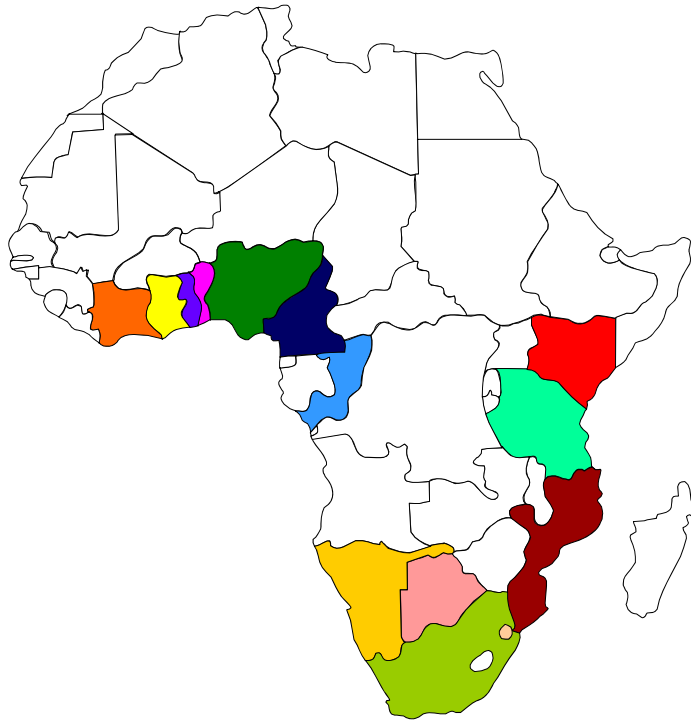


# *King Shaka International Airport – South Africa*



# Power Projects

## Current Group 5 three-year view in targeted markets



^ Partially / secured work

\* Target

Value of G5 target projects = R21,7bn

Value of G5 secured projects = R2,9bn



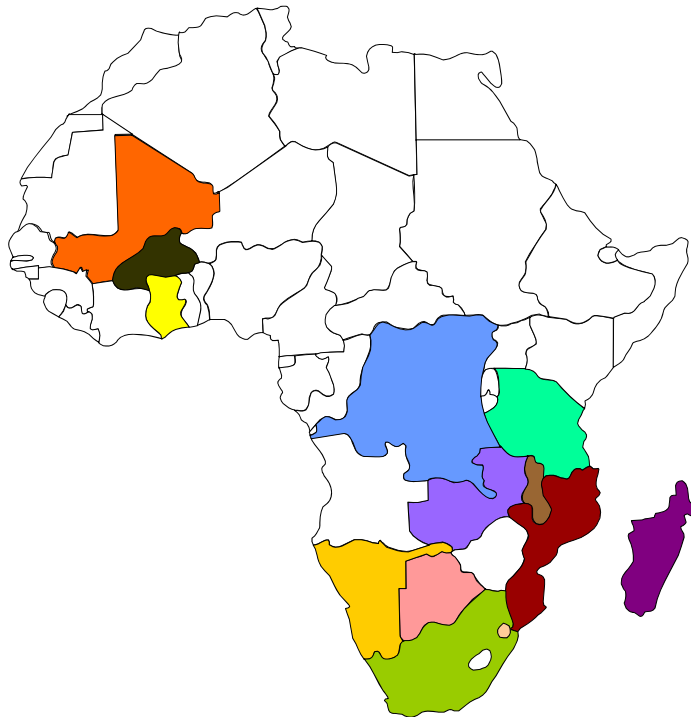
Ivory Coast	G5	Total	Kenya	G5	Total
GT project	-	R1bn	Various GT	-	R3bn
<b>Ghana</b>			<b>Tanzania</b>		
* Tema	R400m	R800m	* Songo Songo	R180m	R1bn
Tikaroudo	-	R700m	<b>Botswana</b>		
<b>Togo</b>			Kalahari gas	-	R1.5bn
* Electroto	R180m	R350m	* Mmamabula	R10bn	R60bn
<b>Benin</b>			CBM 1000	-	R6bn
* GT Project	R200m	R400m	* Moropule	R2bn	R12bn
<b>Nigeria</b>			<b>Mozambique</b>		
^ IBOM 1& 2	R2bn	R4bn	Ressano Garcia	-	R1.5bn
^ Aba	R450m	R1.5b	* Moatise	R1.5bn	R4bn
Chevron Agura	-	R300m	<b>South Africa</b>		
* Farm Electric	R260m	R1bn	* ESKOM	R6bn	R90bn
* Ikorodu	R450m	R1.5bn	Engen	-	R4bn
Exxon Eket	-	R1.5bn	^ Straitchemical	R450m	R500m
* Obajana Cement	R90m	R250m	DME - KZN	-	R400m
* Shagamo	R200m	R1bn	DME - PE	-	R400m
* Ibese	R200m	R1bn	Peaking - CT	-	R400m
<b>Cameroon</b>			PBMR	-	R10bn
Kribi	-	R500m	RSA Nuclear	-	R20bn
<b>Congo</b>			<b>Namibia</b>		
Pot Ash Project	-	R200m	Walvis Bay	-	R1.5bn

# *IBOM Power Project - Nigeria*



# Mining Projects

## Current Group 5 three-year view in targeted markets



^ Partially / secured work

\* Target

Value of G5 target projects = R5,2bn

Value of G5 secured projects = R2bn



Mali	G5	Total
^ Syama project	R150m	R500m
* Anglo gold mines	R250m	R2bn
Burkina Faso		
* Perkoa zinc	R150m	R600m
* Essakane gold	R1.5bn	R2.5bn
Congo DRC		
^ Ruashi 2	R350m	R1.5bn
* Kamoto 1-5	R100m	R1.5bn
* KoV	R600m	R3.6bn
Kolwezi tailings	-	R500m
^ Kalukundi	R250m	R4bn
^ Tenke fungurume	R200m	R4bn
Kipushi zinc	-	R300m
* Katanga	R100m	R2bn
South Africa		
S/Hills platinum	R50m	R200m
Khumani iron	R80m	R500m
* Klipspruit	R50m	R200m
* Ezulwini gold	R50m	R300m
* Simmer & Jack	R100m	R100m
Impala 17 shaft	-	R700m
* Eland platinum	R50m	R50m
Weziswe coal	-	R50m
* Smoky Hills	R70m	R70m

Ghana	G5	Total
^ Tarkwa project	R100m	R3bn
Tanzania		
^ Geita 2	R15m	R15m
Madagascar		
Ambatovy Nickel	-	R6.5bn
Botswana		
* Orapa exp	R600m	R2bn
* Tati Nickel exp	R100m	R500m
* Debswana	R200m	R12bn
Mozambique		
* Corridor sands	R150m	R2 bn
* Moatize coal	R1bn	R3bn
Zambia		
* Konkola	R70m	R2bn
^ Lumwana	R700m	R3bn
* Chambisi	R70m	R70m
^ Frontier	R60m	R1 bn
Namibia		
^ Rossing	R70m	R70m
^ Langer Heinrich2	R100m	R100m
Malawi		
Kayelekera	-	R2bn

# Kansanshi – Zambia



# Industrial Projects *Current Group 5 three-year view in targeted markets*



^ Partially / secured work

\* Target

Value of G5 target projects = R6,4bn

Value of G5 secured projects = R800m

South Africa	G5	Total
* Straits chemicals	R600m	R2bn
^ Alcan smelter	R800m	R6bn
SASOL water	-	R1bn
* Highveld steel	R30m	R1bn
Columbus furnace 3	-	R2bn
* MITTAL	R1bn	R4bn
* Power stations (Ind)	R2bn	R10bn
Nuclear stations (Ind)	-	R2bn
* Coega Developments	R500m	R10bn
* Orascom cement	R700m	R2.8bn
* Nampak	R100m	R2bn
* Pulp & Paper projects	R80m	R2bn

Angola	G5	Total
* Lobito cement	R300m	R2.5bn
Luanda port	-	R700m
Nampak bevcan	-	R2bn
Nigeria		
* Obajana cement	R200m	R1bn
Tanzania		
TPPC expansion	-	R1bn
Mozambique		
* MOZAL 3	R400m	R3bn
Madagascar		
* Ambatovy Nickel	R500m	R6bn



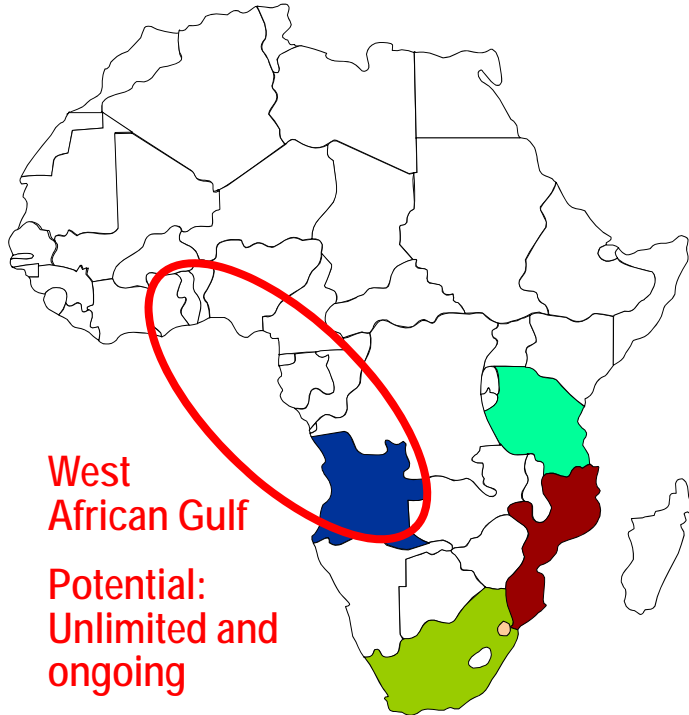
# *Mittal Steel Engineering Project – South Africa*



# Oil & Gas

(Projects, shuts, turnarounds and maintenance)

Current Group 5 three-year view in targeted markets



West African Gulf

Potential: Unlimited and ongoing

^ Partially / secured work

\* Target

Value of G5 targeted projects = R2,8bn

Value of G5 secured projects = R160m

South Africa	G5	Total
Shuts, turnarounds & maintenance		
^ Engen	R40m	R1bn
^ Chevron	R20m	R600m
* Sapref	R50m	R500m
Natref	-	R50m
Sasol	-	R50m
* Petro SA	R50m	R50m
New Projects		
* Kudu gas	R300m	R10bn
* ACSA depot	R150m	R250m
* Transnet pipe	R600m	R11bn

New Projects		
Angola	G5	Total
^ Cabinda	R100m	R500m
* Soya	R400m	R20bn
* Lobito ref	R1bn	R10bn
Tanzania		
* Songa Songa	R200m	R1bn
Mozambique		
Petro Nkala ref	-	R30bn
Sofala oil	-	R10bn





# *Installations at Malongo base Cabinda – Angola*



# Market Outlook – SOUTH AFRICA

*Around R631bn is expected to be spent on infrastructure over the next 3 years<sup>#</sup>*

-  +/- R140bn\* will be applied to capital formation in calendar 2007\*
  - Although growth in residential construction has slowed, construction works and non-residential construction are picking up considerably in 2007<sup>^</sup>
  - Construction contract awards in 1<sup>st</sup> quarter 2007 grew 53% in real terms on an annual basis<sup>^</sup>
    - Result of ACSA, Transnet, Ports, 2010 and Eskom work being awarded
  
-  +/- R631bn<sup>#</sup> is projected to be spent on infrastructure over the next 3 years
  - stimulated by the 2010 World Cup, GDP growth and the need to catch up past under-spend:
    - R410bn public sector spend
    - R221bn private sector spend



\* Source: Equity Research and Advisory Services

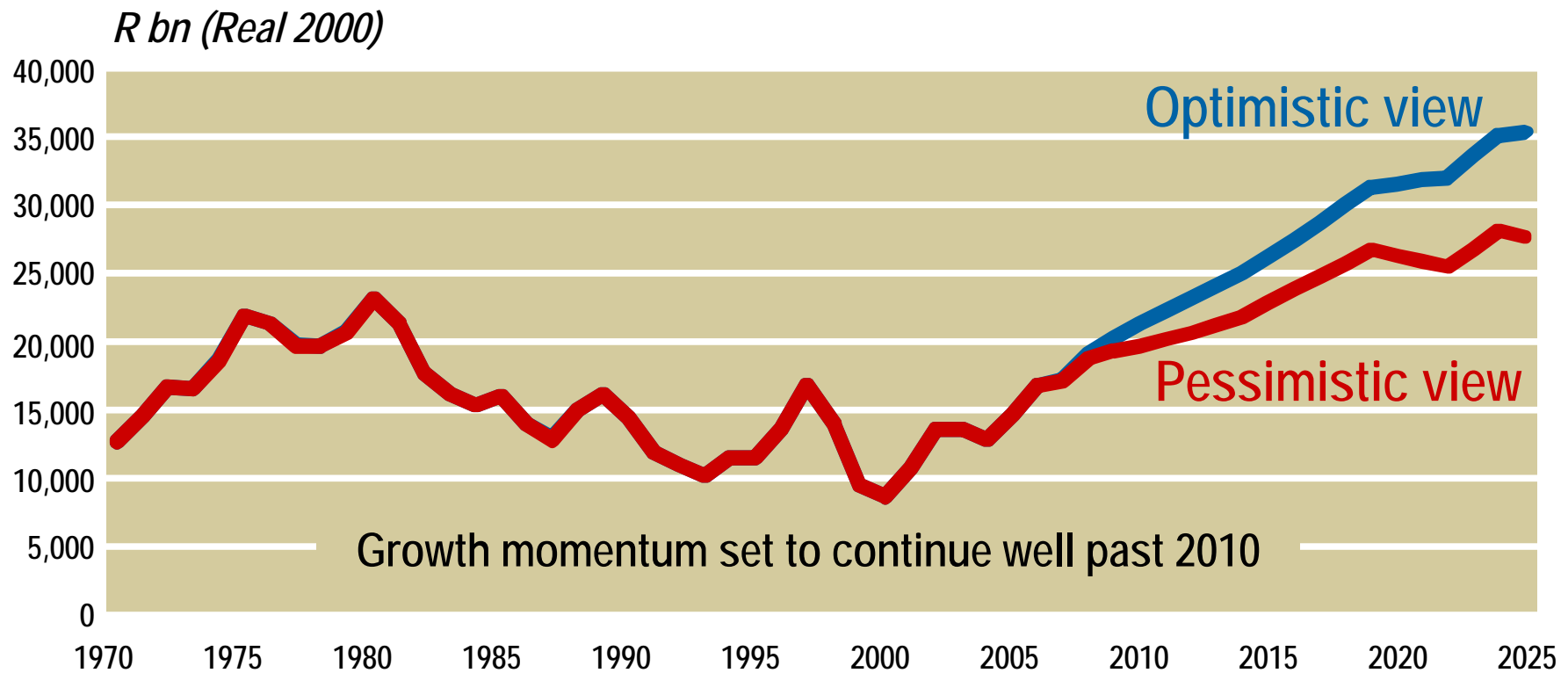
<sup>#</sup> Estimate as per Macquarie First South Securities report - 25 September 2007

<sup>^</sup> Source: South African Federation of Civil Engineering Contractors

# Market Outlook – SOUTH AFRICA

Long Term SA Activity – SAFCEC simulated cycle from 2006 -2025\*

## Civil Engineering Turnover: 2025



\* Based on pattern of 1960 – 1975

Source: South African Federation of Civil Engineering Contractors



# Sector Challenges

<i>Challenges</i>	<i>Group Five's response</i>
Skills shortages	<ul style="list-style-type: none"><li>Substantial investment in training</li><li>Repatriation of South Africans and recruitment of expats</li><li>Bulk work permit application with Home Affairs approved</li><li>Use of local content labour on over-border contracts</li><li>Successful retention strategies for top 100 managers</li></ul>
Clients capacity & experience in executing large projects	<ul style="list-style-type: none"><li>Move towards turnkey projects with growing acceptance of alliance contracting</li><li>Early engagement with clients in defining project delivery methodology</li></ul>



# Sector Challenges

Challenges	Group Five's response
Raw material shortages and price increases	<ul style="list-style-type: none"> <li>➤ No shortages have been experienced locally; average price increases of <math>\pm 12\%</math> in F2007</li> <li>➤ Upfront negotiations to secure fixed terms with suppliers and subcontractors</li> <li>➤ Escalation formula in contracts and under-recovery priced in</li> <li>➤ Investment in own supply will assist availability to an extent</li> </ul>
Risk of overtrading	<ul style="list-style-type: none"> <li>➤ Rigorous review of risk and availability of resources prior to bidding</li> <li>➤ Stringent project selection</li> <li>➤ Continued focus on project management discipline</li> </ul>
Government delays in commissioning projects	<ul style="list-style-type: none"> <li>➤ Maintain sector &amp; geographic diversification strategy</li> <li>➤ Public Private Partnerships</li> <li>➤ Close working relationship with government as clients</li> </ul>





## *Appendix 2: Alliance Partnering*

# Changed pattern of risk assumption on EPC's through Alliancing in a consortium

## EPC Contract – Contractor takes all risk and reward

- ☛ Contractor takes full process design risk
- ☛ Contractor takes full detail design risk
- ☛ Contractor takes full performance risk
- ☛ Contractor takes full construction risk
- ☛ Contractor price usually lump sum
- ☛ Employer's representative optional
- ☛ Independent Engineer optional
- ☛ Consulting Engineer is responsible to report to EPC Contractor
- ☛ Commercially responsible for discipline interfaces

## Alliancing model – alliance leader manages the interfaces between partners who share risk and reward

- ☛ Technology partner takes process risk
- ☛ Design partner takes detail design risk, contractor manages design process
- ☛ Performance risk is accepted by the consortium appropriate to their responsibility
- ☛ Constructor partner accepts construction risk
- ☛ Price is remeasurable on an open book basis to design freeze stage
- ☛ Employer is invited to participate in the alliance
- ☛ Independent Engineer usually not necessary
- ☛ Consulting (design) engineer is part of, and responsible and accountable to the alliance for, delivery of design and performance thereof
- ☛ Lead partners manage inter-discipline interfaces



■ High risk   
 ■ Medium risk   
 ■ Low risk