REGIONAL MARKET DEVELOPMENT AND OPPORTUNITIES TO ADVANCE EXPORTS FOR MINERAL PROCESSING EQUIPMENT FIRMS IN SOUTH AFRICA

Authors: Hoosen Essack (SAMPEC) and Dr. Marian Lydall (Mintek)

Economic Research Advisory Network (ERAN)
First Annual Conference 2016
Driving South Africa’s Industrial Development Agenda
10-11 March 2016, Port Elizabeth, South Africa
Starting Point for Discussion: Our National Imperatives

- Urgent need to **structurally transform** the economy away from its dependence on primary activities along a more **diversified, value-added, labour-absorbing** growth path

- NGP advocates greater utilisation of **minerals** as a starting point for such transformation

- NGP also emphasises need for **targeted support** for priority sectors (e.g. capital goods) to improve their productive capacity & competitiveness

- NDP alludes to **developmental role played by linkages** arising from upstream industries such as mining, particularly where revealed comparative advantage & global market pull exists

- IPAP 2014/15-2016/17 provides the framework for achieving these objectives especially with regard to machinery & equipment
The Broader Context: The Nature of the Mining Industry

• SA firms operate in a global market environment that is constantly changing

• We are well endowed with mineral resources BUT our mining sector is affected by the global economics of mining – we aren’t the drivers.

• Since this survey, the playing field has altered again and will do so going forward. The target is always a moving one.

• The mining industry is slow and ponderous with respect to “change”

• SA has a long history of mining activity and firms are advanced relative to the African continent and in some aspects the globe

• Recognition that we must act NOW – several concurrent initiatives (RCGDP, Phakisa) have emerged emphasising the need to do more with what we have
• SA has a revealed comparative advantages in particular groupings of mineral processing equipment – Sorting & screening, Crushing & grinding, Pumps & Spares across all three product categories (IDC, 2014),

• Exports into sub-region averaged ~US$20 million between 2008 and 2014. Value added component in such mining-related exports much higher relative to other high tech export industries from SA

• Sustained and growing regional demand dynamic – Wide range of commodities in region & strong project pipeline (Africa will account for 12% of global mining investment between 2013 to 2031. RMG database shows 52 plants in stages of development valued at US$17 Bn (possible backward linkages of ~US$4.7 Bn & US$1.1 Bn for greenfield & brownfield plants)

• BUT SA firms fast losing share to new foreign entrants

• Mineral processing equipment subsector represents “window of opportunity” to fulfil NDP goals….if we get support right

• In 2015, survey done of leading mineral processing OEMs & EPCMs to understand strengths, constraints, challenges & necessary interventions

Figure 4: Export trends of select mineral processing equipment from South Africa, 2000-2014

Source: US Comtrade database 2015
What is ‘Mineral Processing’

- "Mineral processing" encompasses the three stages in the mineral beneficiation chain that follow after the upstream mining stage – i.e. mineral processing, smelting, and refining.

- Equipment is designed to reduce size of mined ore, separate valuable material from waste streams, and transform concentrate into a refined product for further fabrication.

Figure 1: The mineral beneficiation chain highlighting the main activities comprising mineral processing.
Mineral Processing Equipment

- Different types of large-scale equipment are used across the various processing steps.

- Other critical specialised inputs used included lubricants, fuel, chemicals and reagents, steelwork and piping, instrumentation and control systems, gearboxes, motors, mill liners, and grinding media

Figure 2: The key processes, equipment and services used in ‘minerals processing’
Structure of the SA Processing Equipment Industry

• Most mineral processing equipment suppliers fall within the manufacturing sector – specifically machinery & equipment, & electrical equipment sub-sectors.

• Industry comprises three groups or tiers of companies, depending on whether they provide inputs directly or indirectly (via intermediary/aftermarket) to end-user.

• In SA, most OEMs & EPCM firms clustered in Gauteng, in suburbs surrounding greater JHB CBD.

Figure 3: Simplified structure of the mineral processing equipment supplier industry.
Key Features of SA OEMs – Survey Findings

• **Market characteristics**
  – Sector conservative & slow to change, IP source of competitiveness, emphasis on improving plant efficiencies & cost for end-user, switch to low-cost global sourcing

• **Customer profile**
  – Little change over past decade – miners provide brownfields work, EPCMs source of greenfield projects

• **Perceived sub-regional market opportunity**
  – African market major for SA suppliers: DRC, Zambia, Tanzania, Mozambique & Namibia, long term opportunity for aftermarket sales, new markets in oil & gas

• **Perceived South African market opportunity**
  – Few greenfield projects in SA, mostly brownfields, expansions need favourable (local & global) business environment.

• **Firm strengths and competitive advantages**
  – Mix of local & global players, use JHB as HO, firms have a depth & range of products, developed good back-up service, SA quality & std accepted in Africa, existing RDI base in country, industry representation (via SACEEC & SAMPEC)
SAMPEC members believe SA firms have the strength and abilities to compete with new foreign entrants & deliver on the objectives of the NDP. Their ability to act on such opportunities undermined by number of critical internal & external threats & constraints:

- **Negative perceptions impacting investor decision-making**
  - Negative perceptions of government on nationalisation and the labour force act as a deterrent to foreign investors looking to localise in SA. OEMs are holding back on their investment plans/ looking to relocate elsewhere in region until sentiment improves.

- **Consignment stock restrictions and high cost of logistics**
  - Firms can only carry stock at plants for one year otherwise they have to get clients to buy it or bring it back to South Africa = high logistics/import duty costs & loss of advantage.

- **Threat of pirated parts**
  - Major threat to increasing share in specialised wear part supply/spares – pirated/reengineered imports are cheaper, harder to track, and inferior quality (leading to safety risks and loss of productivity on mines & erosion of brand reputation).
Constraints, Challenges & Interventions Assessment

- **High cost of inputs and utilities**
  - A large proportion of input costs used by sector are driven by "administered prices" and international pricing (steel and diesel) all of which have increased significantly over past 5 years impacting cost profile of firms. Situation aggravated by electricity supply interruptions & uncertainty around future availability.

- **Procurement constraints**
  - Major mining firms utilise tender process which works well. Challenge lies with junior mining firms, especially those with a foreign JV partner, as procurement decisions are cost-driven. Result is increasing off-shore procurement.

- **Skills shortages and advancing sub-sector innovation**
  - Urgent need for skills across supply chain (metallurgists, mechanical engineers, project engineers, machinists & artisans), & staff with on-plant practical experience. R&D base has also weakened over time as a result of international consolidation of OEMs.

- **Insufficient export promotion and incentive support**
  - Low firm awareness around the scope and range of dti industry support instruments and incentives especially around exports & pursuing regional opportunities. Incentives also not specifically targeted at "mineral processing equipment".

---

**SAMPEC**

**MINTEK**

**SOUTH AFRICAN MINERAL PROCESSING EQUIPMENT CLUSTER**
Necessary Interventions

*Based on interviews sub-sector requires the following key interventions:*

- **Broadening existing value chains** – Requires programmes that attract long-term strategic capital investment and deepen local manufacturing capabilities.

- **Greater clarity on policies and the development of a coherent national strategy for the growth of the mining sector and its supplier industries** – To retain & attract new OEMs

- **Need for significant sectoral support & for state interventions that encouraged local manufacture without the imposition of import tariffs** – Relooking incentives to ensure alignment with sub-sector, development of a specialised mentorship programme, aligning with other national & regional capital goods growth initiatives etc

- **Reviewing the existing logistics tariff structure and consignment stock restrictions** – To incentivise firms to undertake greater value addition and job creation.
Necessary Interventions (...cont.)

• Implementation and communication of a rational and credible load-shedding schedule – Particularly during winter months, to minimise production interruptions and losses

• Aligning future power generation capacity plans with the capital investment plans of OEMs – Essential to deepen the backward linkage effects

• Strengthen internal capacity of SAMPEC – Cluster in still new and requires resourcing to develop impactful/actionable programmes around R&D, skills, marketing, policy in the mineral processing equipment space.

• Leveraging SACEEC to champion greater collaboration between all stakeholders to advance the mining sector and supply chain as a whole – This include mining companies, Tier 1 and 2 companies, government, industry bodies, academia, labour, services organisation, etc

• Most importantly continue deepening the discussion and engagement beyond this event!
Concluding Point: AFRICA….is not for sissies
Acknowledgments

- DTI
- Interviewed company’s
- SAMPEC
- Mintek
- SACEEC
- Chamber of Mines
- RCGDP
Thank you