THE DEPARTMENT OF TRADE AND INDUSTRY

INDUSTRIAL POLICY ACTION PLAN 2015

Economic Sectors, Employment & Infrastructure Development Cluster
IPAP 2015/16 – 2017/18
Industrial Policy Action Plan 2015
The Department of Trade and Industry
Economic Sectors and Employment Cluster
IPAP 2014/15 - 2016/17
IPAP IN BRIEF: A USER’S GUIDE

AS A COMPANION PIECE TO THIS YEAR’S IPAP WE HAVE PRODUCED A COMPACT INSERT WHICH AIDS TO SUMMARISE AND CRYSTALLISE THE KEY ISSUES.

This short booklet sets out the core purposes of the IPAP in the context of global and local trends in the evolution of industrial policy.

It provides an overview of IPAP’s key focal areas and the policy instruments it embraces.

It also contains an Appendix which offers a short compendium of information on the financial and technical support institutions that assist in the realisation of IPAP goals.

This includes the institutions’ contact details, brief descriptions of the support programmes they provide and a handy list of the industrial incentives that are publicly available to both existing manufacturers and emerging entrepreneurs.

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This year, the publication of the annual iteration of the Industrial Policy Action Plan (IPAP 2015/16 – 17/18) coincides with a set of global economic conditions which are complex and volatile and which could impact on South Africa’s economy — and its manufacturing sector in particular — in a range of potentially contradictory ways. While the fall in the price of oil has certainly benefited South Africa, the fall in price of a range of other commodities will place our mining sector under further stress, in particular — in a range of sometimes contradictory ways. While the fall in the price of a range of other commodities will place our mining sector under further stress, in particular — in a range of sometimes contradictory ways.

Foreword
By the minister

The overall diversity of the economy and many of its critical industrial capabilities have been retained; and a range of strong and viable policy platforms and programmes have been built and strengthened. Once again IPAP provides a summary of these achievements and remains optimistic, in pursuit of proactive, pro-growth policies. Of particular importance is the necessity of openly sharing with all stakeholders the impact of government, State Owned Enterprises (SOEs) and private sector programmes.

The IPAP seeks to ensure that the impact of fleet procurements (such as, for example in locomotives) is fully optimised; the point being need to adapt as we “learn by doing”: refining existing approaches, adding further instruments and programmes and — in a small minority of instances — jettisoning those which have been found wanting.

Since its inception, IPAP has had to row against the tide of the global and local recession, and the fall in the price of a range of other commodities, whilst at the same time reflecting the implementation lessons learned over each successive IPAP period. In other words, the IPAP does not reflect any change in the policy framework, but rather the need to adapt as we “learn by doing”, refining existing approaches, adding further instruments and programmes and — in a small minority of instances — jettisoning those which have been found wanting.

In the forthcoming period the IPAP presents a three-pronged strategy to achieve this objective. Firstly, there will be a strong focus on increasing compliance with public sector procurement provisions, including making compliance an audit requirement. Secondly, by training and building capacity for the capability to monitor and support existing fleet procurements so that their impact is maximised.

As part of this approach a further important function of the IPAP is to ensure the leverage of the MOG to assist with the industrialisation process. Investment in infrastructure that can ensure the growth of high potential industrial sectors is critical.

For the MOG, its investment programme driven by the Presidency, is focusing on a collaborative effort between government, Transnet and the private sector to unlock maritime and marine engineering-related infrastructure.

Apart from the volatile global economic context, the development of the manufacturing sector is consequently core to the industrialisation process. Investment in infrastructure roll-out to accelerate the development of openly sharing with all stakeholders the impact of government, State Owned Enterprises (SOEs) and private sector programmes.

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“WORKING CLOSELY WITH GLOBAL AND SOUTH AFRICAN OEMS TO DEVELOP NEW PRODUCTS TAILORED FOR OUR PRIORITY EXPORT MARKETS”

This applies not only to upstream mining opportunities and downstream beneficiation projects but also to the significant work that has already taken place with respect to future Uses to industrialisation. IPAP 2015 therefore sets particular store on continuing efforts to build working relationships with large mining companies that can potentially contribute to the realisation of our industrial ambitions.

The revised empowerment codes, which unambiguously provide incentives for both small businesses and supplier development, create a foundation for working with mining companies towards building world-class engineering companies in the mining supply chain.

This includes collaboration between government and mining companies on the development of new technologies to enhance our mineral wealth inside South Africa.

“SUPPORT FOR MANUFACTURED EXPORTS”

The IPAP put a specific emphasis on building world-class manufactured product exporters, by working with and supporting leading and dynamic companies with a proven track record as vendors in their respective sectors.

The emphasis on ramping up export competitiveness will be increasingly achieved through the implementation of a range of carefully considered strategic measures, as follows:

- Working with OEMs
- Global Original Equipment Manufacturers (OEMs) have a core competence in identifying and nurturing high potential companies to become part of their supply chains. OEMs are able to introduce experts from their global networks to assist ambitious South African companies to enhance their capability and competitiveness.

- The dti will be focused on partnering with committed South African OEMs (for example in the automotive sector) to expand the number of South African exporters.
- Industrial/financing and support
- Work is well advanced to build and strengthen a system of industrial financing, incentives and other assistance measures to ‘support winners’ in the manufacturing sector. In this regard support for domestic OEMs is also vital since these dynamic South African companies provide a base-load of demand for component manufacturers located in South Africa — and are consequently critical to South Africa’s export effort.

- The IPAP will thus be an energetically helping existing and aspiring South African OEMs to develop products specifically tailored for our priority export markets.

- “DRIVING REGIONAL TRADE AND INDUSTRIAL INTEGRATION”

Growing South African exports to the African region have somewhat offset declining exports to traditional trading partners. Expectations of growth in many African countries remain high, powered by resource exploration, infrastructure investment and a growing middle class. In keeping with previous iterations, IPAP 2015 sets out some of the work being undertaken to further regional industrial integration both within the formal institutional framework as well as through government-led research and policy development.

Also highlighted in IPAP 2015 is a special section on support for black industrialists, which sets out the first practical steps towards realising the government’s commitment to transformation and empowerment in the manufacturing sector.

As we always emphasise, the IPAP is a product of the Economic Cluster of Departments (ECD). IPAP 2015 reflects the need to optimise the impact of the Industrial Development and Administration (TISA); the International Trade and Investment Promotion Division (TIPA) of the Department of Trade and Industry, responsible for support for manufactured exports.

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This is the seventh annual Industrial Policy Action Plan (IPAP). It sets out — as each successive iteration has done — the key economic data and analysis which will inform the work of the dti in the financial year ahead.

In keeping with all previous iterations, this year’s IPAP sets out in some detail all the transversal and sector-specific time-bound Key Action Plans (KAPs), together with a clear indication of the lead and supporting departments jointly responsible for each.

This is important, firstly, because the IPAP is a collaborative product of the Economic Cluster of government. Its success hinges on the extent to which all government departments, state owned companies (SOCs) and developmental finance institutions (DFIs) cooperate with one another in support of an integrated industrial development effort.

Secondly, it is important because this format enables good management and oversight of the success, or otherwise, of the work set out in each sector; and identifies the new or revised interventions that are required when problems or bottlenecks are encountered.

Thirdly, the IPAP provides a framework within which all the other divisions and functions of the dti can fit, encompassing the full range of its trade, investment and export promotion efforts.

Finally, the format allows for the public in general — and manufacturing companies in particular — to gain an informed insight into the overall architecture and the nitty-gritty detail of the Industrial Policy Action Plan. This makes it much easier to develop the mutual understandings and build the partnerships with government that are so critical to the success of South Africa’s industrialisation effort.

IPAP 2015 reflects the collaborative energies of many departments and institutions, including the very valuable efforts of the Department of Science and Technology (DST) — which is responsible for the Innovation and Technology Chapter — and the Industrial Development Corporation (IDC), whose support is reflected across many areas of the IPAP.

To all the individuals, both in the dti and in its sister departments, who have contributed to the compilation of this year’s IPAP — and will be driving implementation of all the Key Action Plans over this and the coming years — I wish to express my sincere appreciation.

Let’s commit to even greater effort in the difficult work that we must all undertake together in carrying out the complex tasks involved in securing sustainable long term industrial development.

Lionel October
Director General
The Department of Trade and Industry

MESSAGE FROM THE DIRECTOR GENERAL
KEY LINKAGES: THE IPAP, THE NDP AND THE MTSF

THE NATIONAL DEVELOPMENT PLAN (NDP)

Highlights the need for SA to develop a more competitive and diversified economy with a higher global share of dynamic products and greater depth and breadth of domestic linkages. (NDP p. 103).

Recognises that resources are either a curse or a blessing (NDP p. 98) – which way this goes being critically dependent on the coherence of investment and regulatory policy.

Posits the need to move steadily away from an exchange rate linked primarily to commodity prices towards one based on the sophistication of SA’s overall export basket. (NDP p. 98-99).

In order to achieve these objectives it advocates deepening the productive base in mining, agriculture, manufacturing and services, intensified stimulation of local and foreign markets and strengthening of conditions to support labour-absorbing activities. (NDP, p. 103).

THE MEDIUM TERM STRATEGIC FRAMEWORK 2014-2019 (MTSF)

Positions the IPAP as one of the key pillars of radical economic transformation in South Africa, predicated on rapid and inclusive growth in the productive sectors of the economy and the creation of a skilled and capable workforce to support an inclusive growth path. (MTSF, pp. 20, 22).
IPAP IN CONTEXT: ECONOMIC ANALYSIS

Introduction

The IPAP 2015/16 – 17/18 is the seventh iteration of government’s annual Industrial Policy Action Plan. It sets out time-bound transversal and sector specific plans, lists lead and supporting departments and provides for continuous monitoring, evaluation and improvement of all the key interventions it makes to secure industrial development in South Africa.

It is aligned with and seeks to take forward South Africa’s vision 2030 as set out in the National Development Plan (NDP); with a particular focus on catalysing dynamic and sustainable economic growth in the domestic economy – a core goal of the NDP. The IPAP is also closely aligned with another key objective of the NDP, namely, the need for South Africa to develop deeper and more robust export capabilities in both traditional and non-traditional dynamic sectors of the economy.

To meet the economic objectives of the Plan, the NDP further proposes the following, more detailed objectives:

- Increasing exports in key sectors such as mining, construction, labour-intensive manufacturing and agriculture.
- Infrastructure development to facilitate economic activity and job creation.
- Reducing the cost of regulatory compliance, especially for small- and medium-sized firms
- Developing a more comprehensive and effective innovation system.
- Stimulating a higher rate of industrial investment, with public sector investment crowding in private investment.
- A strong commitment to public and private procurement that supports domestic industry and job creation.

The current iteration of IPAP - rooted in its founding policy architecture, the National Industrial Policy Framework (NIPF) – is committed to making broader national policy goals through a wide range of mutually supportive and interlocking transversal and sector-specific programmes and instruments targeting specifically the manufacturing sector of the economy.

The close alignment between NDP, the core objectives of the NIPF and the successive annual Action Plans which have followed, provides the continuity and consistency of government policy to the manufacturing sector summarised in the NIPF as:

- Facilitation and support for industrial diversification beyond our current reliance on traditional commodities and non-tradable services - which requires the promotion of increased value addition per capita and targets a significant shift into non-traditional tradable goods and services that are competitive in both export markets and the domestic economy.
- The long-term intensification of South Africa’s industrialisation process and movement towards a knowledge economy.
- The promotion of a more labour-absorbing industrialisation path with a particular emphasis on tradable labour-intensive goods and services and economic linkages, including to the primary sectors of the economy, that are capable of catalysing robust and sustainable employment creation.
- The promotion of a broader-based industrialisation path characterised by deeper levels of participation in the manufacturing sector by historically disadvantaged economic citizens – particularly women – and the inclusion of historically marginalised regions.
- Contributing to industrial development in Africa, with a strong emphasis on regional industrial integration and building regional productive capabilities.

Government-wide policy perspectives and documents – including the IPAP – also clearly reflect the undeniable reality that the domestic economy is characterised by deep-seated structural fault lines that put a brake on development.

These include: high levels of inequality and unemployment; skills shortages and mismatches that are particularly acute in the manufacturing sector; inadequate and over-stretched infrastructure; operational bottlenecks; over-concentration in key sectors of the economy; conflictual industrial relations; and inequitable spatial patterns.

All these challenges have to be addressed in a difficult policy environment still scarred by the distortions and perversities of apartheid’s racially-based economic growth patterns and by our continuing path dependence on a particular energy- and capital-intensive trajectory which is extremely difficult to break out of.
Practically, this means that the South African economy continues to occupy a subordinate place in the global division of labour, principally as a producer and exporter of primary commodities and an importer of value-added manufactured products. To the limited extent that domestic value-added exports exist, they are highly concentrated in a few sectors.

This structural reality is also reflected in the fact that the economy has not grown fast enough for long enough. Where GDP growth exceeded 5% (in 12 of the previous 44 quarters) it was driven both by the commodity super cycle - as China industrialised and embarked on a massive fixed investment drive, resulting in increased commodity demand and booming prices - and by credit-fuelled household consumption based on a very high level of import intensity.

As a result - and as set out elsewhere in this introduction - key features of SA’s recent growth have further embedded existing fault-lines, as evidenced by the continuing steady decline in the mining, agriculture and manufacturing sectors’ share of GDP (refer to Figure 1), and by unsustainable growth in the services sector of the economy - which has significantly out-paced the production or industrial sectors.

Figure 2: Services’ share of GDP – SA vs world regions

The main drivers of South Africa’s high growth in services have been credit extension, retail consumption, the proliferation of business services and telecommunications and explosive growth in the security industry.

Putting it bluntly: growth has not been inclusive; unemployment has never fallen below 22%; and increasing levels of inequality have become a chronic feature of our society. This is very significant because growing inequality is not only a threat to social well-being, stability and cohesion, but also undermines domestic demand and therefore the possibilities for expanded economic growth.

The declining share of the productive sectors in South Africa’s GDP is illustrated in the following graphs.

Figure 3: Agricultural sector’s contributions to SA economy

The consumption-based services sectors of the economy have grown at double the rate of the production-based sectors of the economy. Clearly growth and employment gains in services sectors cannot be sustained if the production side of the economy does not grow.

In terms of our international competitive position, it should also be noted that the growth shown in South Africa’s domestic services sectors also significantly outstrips service growth in peer middle income countries (MICs) and fast-growing regions like East Asia, as illustrated in Figure 2.

The moderate contribution of agriculture to GDP and employment has declined over time, reaching new lows in 2013 and 2014, respectively, as shown in Figure 3.
One example is the extent to which mining demand impacts upon the manufacturing sector, as shown in Figure 5. A number of sub-sectors rely heavily on the mining sector as a key source of demand for their respective products/services. In manufacturing, sub-sectors such as rubber products; machinery and equipment; other transport equipment; wood and wood products; metals products; electrical machinery; basic chemicals, as well as many other sub-sectors supply a substantial portion of their output to the domestic mining sector.

Figure 5: Mining-manufacturing interface: mining is a critical source of demand for manufacture

The downward trend in production and employment across the manufacturing sectors is similarly evident in the contribution they make to GDP and employment. As can be seen below (Figure 6) manufacturing employment levels have steadily declined over time, with 2013 ratios substantially lower than in the 1980s.

Figure 6: Manufacturing sector’s contributions to the SA economy

The data clearly illustrates one of the main reasons why South Africa has achieved such low growth rates and has not been able to come to terms with either the unemployment or the inequality crisis.

The recent widespread fall in the price of traded commodities – with only a few exceptions - which once again underlines the need for diversification of value-added export production.

Similarly, on the trade front, overall growth by volume (including merchantable trade) grew at just under 2% in 2012/2013 and into 2014.

Compounding these problems (see Figure 8 below), and carrying worrying implications for many African countries, including South Africa, is the recent widespread fall in the price of traded commodities - with only a few exceptions - which once again underlines the need for diversification of value-added export production.

Figure 8: Global commodity prices

Recent trends have only served to strengthen and not lessen the structural problems of the economy, entrenching the dependence on commodity exports and capital inflows, with attendant knock-on effects with respect to exchange rate volatility and the deficit on the current account of the balance of payments – all of which leave South Africa highly vulnerable to shifts and swings in global sentiment and economic performance.

All these endogenous factors are exacerbated by the persistent effects of the Great Recession, characterised by muted demand from South Africa’s traditional trading partners, particularly in the austerity-afflicted Eurozone.

Global growth picked up only marginally in 2014 to 2.6%, compared to 2.5% in 2013, and - according to the United Nations Conference on Trade and Development (UNCTAD) - will most likely remain well below pre-crisis levels for some time to come. Any projected slight improvements going forward will be driven in the main by growth in developing countries - particularly China - and the United States.
There is therefore very little likelihood that global growth will return to its previous trajectory in the short term; nor is it a significant prospect of a renewed commodity super cycle. In addition to this, China’s ‘rebalancing’ of its economic structure to move up the value chain and adopt a steadier less resource-intensive growth path will put considerable pressure on South Africa’s commodity exports; this, because, although China is South Africa’s leading export destination at the country level, the export basket destined for the world’s second largest economy is still heavily dominated commodities. These accounted for 69% of South Africa’s merchandise exports sold on the Chinese market in 2015 and consisted largely of iron ore, manganese, chrome, copper, coal and platinum. However, it is important at the same time to recognize that the global economy is complex and exhibits sometimes contradictory trends. These include the fact that Chinese imports will become more expensive as higher wages are conceded, in turn supporting domestic demand. In contrast to the difficult commodity-export situation confronting South Africa, the fall in the oil price will bring clear advantages to the local economy, both with respect to the international competitiveness of South Africa’s industrial producers.

The domestic manufacturing sector

The domestic economy is still stuttering in the aftermath of the Great Recession, with growth since then having remained well below pre-crisis levels. As previously indicated, the domestic manufacturing sector, machinery and equipment, as well as the motor vehicles and components sector, weak performances were reported by clothing and textiles, plastic products, the metals manufacturing sub-sectors in the first 11 months of 2014. The exceptions were mainly in consumer-oriented sectors and a few others, such as those producing fabricated metal products, sawn timber and basic chemicals.

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Figure 9: Industry share of GDP: international comparison

This adverse trend highlights the challenges facing the domestic manufacturing sector. An increasingly competitive environment globally and substantially weaker demand conditions in key external markets since the 2007/08 financial crisis in advanced economies have negatively affected the performance of local manufacturing. Critical home-grown factors have aggravated the situation, including substantial cost pressures, high administered prices (especially rail freight and port charges for value-added products) and industrial action – all compounded by productivity and competitiveness challenges.

The slowdown effects of the five-month long labour strike in platinum mining last year, followed by labour disruptions in the metals and engineering industries in July, were particularly severe. Lower levels of output were recorded than the year of all manufacturing sub-sectors in the first 11 months of 2014. The exceptions were mainly in consumer-oriented sectors and a few others, such as those producing fabricated metal products, sawn timber and basic chemicals.

Figure 10: Real GDP growth in manufacturing

On a year-on-year basis, real value added by the manufacturing sector contracted by 0.3% over the first three quarters of 2014. This was most likely the worst performance since the 2008/09 recession for a sector that accounts for approximately 13% of real value-added in the economy, 11.5% of overall employment and 34% of South Africa’s export earnings. Furthermore, in light of its substantial linkages with domestic suppliers of goods and service providers across other sectors of economic activity, the poor manufacturing performance has had ramifications throughout the economy.

Weak performances were reported by clothing and textiles, plastic products, the metals sector, machinery and equipment, as well as the motor vehicles and components sector, due to a substantial contraction in the output of components. These sectors benefit from IPAP incentives and other forms of support at varying levels and it is clear that, were it not for government support measures, their performance would have been far more dire across the board.

More promisingly, however, the footwear, paper and paper-products, basic chemicals and furniture sectors all reported relatively strong output growth in 2014. Overall, the marked slowdown in South Africa’s economic growth in 2014 was reflected in a substantial decline in fixed investment spending, particularly by private business enterprises. Private sector fixed investment contracted sharply on a quarter-on-quarter and seasonally adjusted basis in the first half of the year, followed by a marginal up-tick in the third quarter.

Capital outlays in the manufacturing sector contracted by 2% on a year-on-year basis over the first nine months of 2014, compared to a 2.6% contraction in overall private fixed investment and a mere 0.3% growth for the economy at large. Factors affecting investment decisions included weak demand conditions, surplus production capacity in numerous sub-sectors of manufacturing, concerns over electricity supply - especially for energy-intensive projects - and high levels of industrial action.
Facing a generally trying operational environment both on the demand and supply fronts, business confidence among manufacturers remained low throughout 2014, although a modest improvement emerged in the final quarter. This was confirmed by the relatively weak readings of the Purchasing Managers’ Index (PMI) throughout 2014.

The infrastructure development programme rolled out by the public sector - including both general government and public corporations (state-owned entities) – was designed, amongst other things, to provide a substantial counter-cyclical effect to the ravages of the economic downturn of 2008/2009 (as illustrated in Figure 12 above). Although the rate of growth in such investment has subsequently decelerated, the absolute levels remain high on an annual basis.

For the economy at large, only 880,000 additional jobs have been created since 2008, falling well short of the number necessary to absorb new entrants into the labour market and, most critically, to meaningfully reduce overall unemployment in South Africa. The unemployment rate measured an excessively high 24.3% in the fourth quarter of 2014, with just over 4.9 million people unable to find a work, whilst the number of discouraged work-seekers has also been rising.

External trade
South Africa’s export sector came under increased pressure during the course of 2014. As noted earlier, falling commodity prices, production stoppages due to labour strikes in the platinum mining industry, reduced global demand and production challenges experienced by key export-oriented manufacturing sectors all contributed to this adverse trend in exports.

Moreover, the manufacturing export basket remains highly concentrated, with a few main sub-sectors accounting for the bulk of manufactured exports (refer to Figure 15). The top ten export categories accounted for 63% of all manufactured exports in 2014. This extent of concentration makes the export sector particularly vulnerable to unexpected developments in key global markets affecting both demand and supply conditions for our main export categories.
In contrast to all these challenges, a most welcome trend has been the rising importance of the rest of the African continent as a major market for locally produced manufactured goods. Manufactured exports to other African markets totalled R143 billion or 31% of all manufactured exports in 2014, exceeding the R122 billion destined for Europe by a substantial margin. However, almost 75% of South Africa’s manufactured export trade with the rest of the continent is conducted principally with other members of the Southern African Development Community.

Figure 16: Regional destinations of manufactured exports in 2014

It is noteworthy that manufactured goods represented approximately 92% of South Africa’s merchandise exports to other African countries in 2014, as compared to 74% and 60% in the case of the United States and the European Union respectively.

Figure 18: Top manufactured exports to Africa

Figure 19: Agro-processing trade

Agro-processing trade (refer to Figure 19), for example, is both a cause for optimism and a signal as to where further focussed industrial support measures should be directed. As illustrated in Figure 20, the African continent is rapidly growing into South Africa’s most important export market for manufactured goods.

Figure 20: SA non-commodity-based manufacturing exports*
Mineral exports

At a broad sector level it is clear that South Africa’s mineral exports to the world at large have underperformed over the past two decades. By 2013, export volumes (at constant prices) were stuck below 1994 levels, mainly the result of a sharp declining trend in gold exports. Although minerals like platinum group metals (PGMs), coal and iron ore in particular reported stronger growth, this was not enough to fully compensate for gold’s steep decline. The global recession in 2008/09 took its toll on manufactured exports, whilst - despite a subsequent mild economy-wide recovery - export volumes have barely recovered the losses of the economic downturn.

South Africa’s non-mineral exports have also underperformed and are lagging behind those of its peers. In nominal terms, growth in South Africa’s non-manufactured exports was substantially slower than in countries such as China, Russia, India, Brazil, Thailand and Turkey over the period 1994 to 2012.

Despite a substantial moderation in overall economic growth in 2014, demand for imported goods remained surprisingly strong. The import intensity of the South African economy averaged around 25% over the first 3 quarters of 2014, reflecting strong demand for crude oil and refined petroleum products, as well as machinery and equipment. Manufactured goods accounted for the bulk of the import basket at a ratio of 80% in 2014. Demand for imported goods has risen at a much faster pace in nominal terms in recent years, compared to that recorded by exports, resulting in a widening trade deficit for manufactured goods.

Consequently, the overall deficit on the current account of the balance of payments increased to 5.8% of GDP, being the largest deficit since 1981. In 2014, the current account deficit remained large at a ratio of 6.3% and 6% of GDP in the second and third quarters respectively.

Figure 21: Merchandise export trends at constant prices

<table>
<thead>
<tr>
<th>Year</th>
<th>Agriculture</th>
<th>Mining</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>2013</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

*Including trade with Botswana, Lesotho, Namibia and Swaziland

Source: IDC

Foreign Direct Investment (FDI)

Foreign direct investment (FDI) flows into South Africa (Figure 23 below) have been generally robust since 2007, with the country being the leading recipient of FDI on the African continent in 2013.

Figure 23: FDI into South Africa

<table>
<thead>
<tr>
<th>Year</th>
<th>Total FDI (Rand million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994</td>
<td>100</td>
</tr>
<tr>
<td>2013</td>
<td>1000</td>
</tr>
</tbody>
</table>

Source: Financial Times

Figure 24: FDI into South Africa by selected countries

<table>
<thead>
<tr>
<th>Country</th>
<th>FDI (capex) 2013-2014 (Rand million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>10000</td>
</tr>
<tr>
<td>US</td>
<td>16000</td>
</tr>
<tr>
<td>India</td>
<td>8000</td>
</tr>
<tr>
<td>China</td>
<td>6000</td>
</tr>
</tbody>
</table>

Source: Financial Times

Figure 25: FDI into South Africa by selected IPAP sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>FDI (capex) 2013-2014 (Rand million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable energy</td>
<td>8000</td>
</tr>
<tr>
<td>Metals</td>
<td>5000</td>
</tr>
<tr>
<td>Automotive OEM</td>
<td>10000</td>
</tr>
<tr>
<td>Chemicals</td>
<td>16000</td>
</tr>
</tbody>
</table>

Source: Financial Times

Breaking these numbers down by country investment (refer to Figure 24) and by major recipient sector (refer to Figure 25), we can see that a) the biggest inward flows are still predominantly from South Africa’s traditional advanced economy trading partners, with the UK and US well to the fore (though with both India and China starting to make a significant showing); and b) that there has been very significant capex inflow into the renewable energy sector – a tribute, no doubt, to the widely-recognized success of the Renewable Energy Independent Power Producer Programme (REIPPPP).
SUMMARISING:

- These trends and the data - the global and domestic realities - underline the necessity for South Africa to accelerate economic transformation to address the deep-seated structural problems which characterise the domestic economy: away from a consumption-led, debt-fuelled trajectory in which energy- and carbon-intensive production and the export of raw commodities and semi-processed products are the dominant factors.
- Government policy documents stress the necessity of a new economic growth trajectory based on industrial development, strongly tying the production sectors of the economy, with a special emphasis on higher value-added manufacturing and exports.
- The manufacturing sector is critical to sustainable growth, as set out in all previous iterations of IPAP. The undeniable, repeatedly demonstrated facts are that manufacturing has the highest growth and employment multipliers of all the economic sectors; that it has strong positive spillover effects on the primary and services sectors; that it is a key driver of technological innovation and skills development; and that it has a strong positive impact on the balance of trade.
- Thus IPAP 2015/16 - in keeping with and building upon previous iterations - embodies the critical objectives to achieve a higher-impact industrial policy:
  - Economy-wide pursuit of a stronger articulation of macro- and micro-economic policies:
    - Use of policy instruments to prevent over- and under-shooting on the valuation of the rand - hence mitigating its volatility.
  - Stronger alignment of government-led industrialisation policies, both between departments and SOCs; including export promotion programmes and intensified support for Export Councils.
  - Infrastructure-driven industrialisation: sustaining and building the public infrastructure programme, with stronger support for local manufacturing and economic infrastructure, including Special Economic Zones and regional industrial integration.
  - Resource-driven industrialisation: which enables the leveraging of mineral resources for greater levels of downstream beneficiation and value addition and systematically builds up both the demand and competitive advantages South Africa enjoys in the upstream mining, transport and capital goods sectors. This includes ongoing work to develop a roadmap for gas-based industrialisation.
  - Advanced manufacturing-driven industrialisation: with a continued focus on key upstream sectors with stronger conditionality for public sector support, aligned to strong stakeholder engagement, particularly with global OEMs in these sectors. The lessons learnt ongoing work, not yet completed, to build an integrated system of industrial financing, incentives and export support with a special focus on flexible and dynamic companies which can compete on a regionally competitive basis.
  - This work also encompasses a strengthening commitment to support emerging black industrial entrepreneurs - as set out in summary further ahead in IPAP 2015.
- Procurement: Strengthening the localisation of public procurement, building on the lessons learnt through the implementation of various policy instruments over the last few years. This includes securing compliance with procurement prescripts in the public sector, training and capacitating public sector institutions for strategic sourcing and supplier development and leveraging other enforcement initiatives such as incentives to support the development of domestic manufacturing capacities.
- Deepening the process of ongoing monitoring and evaluation; while at the same time modifying and strengthening sector strategies and support instruments in key sectors.
- Maximising the opportunities presented to the domestic economy by a growing market on the African continent: driven by high growth in the region, strong consumer demand, infrastructure development and resource exploitation. This opportunity must be optimally leveraged with a strong commitment to - and clear programmes of - regional economic trade and industrial integration.
- Rolling-out the inter-governmental Operation Phakisa Plan for the marine sector:
  - including the marine manufacturing sector, upstream oil and gas and ballasting.
  - This will include the development of public sector investment in port infrastructure and an appropriate model for private sector investment.

OVERCOMING CONSTRAINTS, GRASPING OPPORTUNITIES

At the heart of government’s economic growth strategy now lies a coherent and integrated national industrialisation effort, with a critical role for the manufacturing sector to play.

But this battle is not fought on a blank slate. Aside from the deep-seated structural problems of the domestic economy, already highlighted in the Economic Analysis section of this document, a range of exogenous factors continues to militate strongly against this effort.

Not the least of these factors are the slow, uneven and uncertain global economic recovery - particularly in South Africa’s traditional trading partners - and an increasingly ‘cut-throat’ global economy, characterised on the one hand by increasingly widespread use of tariff and non-tariff barriers to trade and, on the other hand, by significant and increasing public sector support for the building of competitive industrial capabilities.

Tackling both the external and the domestic constraints to the deepening of South Africa’s own industrialisation strategy will require a careful, purposeful, coordinated and sustained effort by government to implement practical solutions-based approaches to the critical issues, working in close collaboration with its social partners.

The following key areas of concern have been identified for special attention and concerted remedial action:

Electricity
SUPPLY CONSTRAINTS: Load-shedding carries with it highly negative consequences for manufacturing in general, and has a critical impact on energy-intensive and energy-reliant industrial sectors such as foundries and plastics. To counter the short-term impacts of the power crisis - and begin to stabilise the situation over the medium term - an initial four-point strategy has been adopted.
This consists of the following elements:

1) The establishment by government of a ‘war room’ to mitigate short-term supply constraints;

2) A demand-side power usage management programme;

3) Measures to secure a more expeditious roll-out of the Integrated Energy Plan, with a particular emphasis on stepping up the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and providing robust support for public co-generation initiatives.

4) Urgently renewed attention needs to be given to electricity supply and pricing issues at the local government level – addressing (a) the levying of high municipal premiums on top of Eskom base charges; and (b) widespread maintenance and billing inefficiencies.1

Economic infrastructure and costs to manufacturing:

Despite some recent reduction in South African port charges – which, according to the World Bank, are amongst the highest in the world – there remains a strong need to re-orientate the South African ports infrastructure away from its current cost-bias in favour of bulk commodity exports and over it towards a pricing model which more vigorously supports the export of value-added manufactured goods.

However, it is also imperative that the private sector comes to the procurement “war room” to mitigate short-term supply constraints; the co-location of SMME support agencies; and speedy resolution of Strategic Environmental Assessments (SEAs) by the Department of Environmental Affairs.

In order to start seriously reducing the regulatory burden, government is initiating a number of interventions to make doing business simpler. These include the “One Stop Investment Centres’’ championed by the dti; the co-location of SMME support agencies by the Small Business Department; and an extensive programme to simplify the necessary requirements - severely complicates the operating environment for business.

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Integration and partnering with the private sector

Efforts to secure integrated, intra-governmental support for industrialisation, in close co-operation with the private sector, have begun to gain traction. Driving this process is the Presidential Business Working Group, made up of five joint task teams focusing on education and skills development; the regulatory environment; the labour relations environment and inclusion.

Higher impact industrial policy instruments

Up to now, either the scale of industrial policy interventions – or the impact of efforts to fully leverage localisation in public sector tenders - have been sufficient to achieve the growth and diversification outcomes the manufacturing economy requires. Recent moves in this direction (IPAP 2015/16) have been significant steps in the right direction. The issue of excessive red tape across regulatory agencies and all three spheres of government manifests in a wide range of difficult forms and onerous licensing requirements - severely complicates the operating environment for business.

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Looking ahead – and taking into account the emergent approaches to ‘bottleneck- busting’ that have been identified in the previous paragraphs – it is evident that we must now move swiftly and decisively towards overcoming all oversights and solutions-based approach to overcoming South Africa’s most pressing economic constraints. Attention must focus on the key issues. These include: securing stricter compliance; capacity building and training; and the roll-out of additional measures to secure higher impacts from the public sector procurement programme.

One Stop Investment Centres (OSIC) (IPAP 2015/16) have been significant steps in the right direction. The issue of excessive red tape across regulatory agencies and all three spheres of government manifests in a wide range of difficult forms and onerous licensing requirements - severely complicates the operating environment for business.

Supporting the roll-out of additional measures to secure higher impacts from the public sector procurement process.

However, it is also imperative that the private sector comes to the procurement localisation table. For example, local supplier development and strategic sourcing by large private sector companies in the mining, health services and telecommunications sector could make a very significant impact on the manufacturing sector.

Regional industrial integration

South African exports to Africa represent possibly the single biggest opportunity on offer to all domestic manufacturers. But in order to fully realise the value of this ‘new frontier’, a strong collaborative platform must be put in place to secure higher levels of trade and deeper industrial integration across African national boundaries.

This will include developing joint programmes of action in electricity and transport infrastructure; industrial integration across key value chains - particularly in the mining; agro-processing, pharmaceuticals and chemicals sectors – and higher levels of value-addition in the downstream minerals processing and beneficiation sector.

Later on in this document (IPAP 2015/16) we set out a series of action plans to address the key issues. These include: securing stricter compliance; capacity building and training; and the roll-out of additional measures to secure higher impacts from the public sector procurement programme.

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ACHIEVEMENT HIGHLIGHTS
A. TRANSVERSAL HIGHLIGHTS

1. INFRASTRUCTURE AND INDUSTRIAL FINANCING

The Infrastructure Development Act, designed to fast-track South Africa’s large economic and social infrastructure projects has been promulgated. Over the coming three years, government will spend a further R840 billion to develop the country’s infrastructure in support of deepening industrialisation.

Over the past 20 years, the Industrial Development Corporation (IDC) has approved total project funding of more than R128 billion (R204 billion in 2013 prices). These financial commitments supported the creation of 360,000 direct jobs over the period and saved an additional 43,000 jobs, particularly through a R6 billion fund set up specifically to cushion firms that fell on hard times during the 2008/9 global financial crisis.

Between April 2014 and December 2014, the IDC approved projects to the value of R7.7 billion and this resulted in 6,899 new jobs whilst 4,668 jobs were saved as a result.

The following IPAP sectors benefitted from the approvals:

- R 3.3 billion in Mining and Minerals Beneficiation
- R 1.4 billion in Green Industries
- R 678 million in Shipbuilding
- R 478 million in Chemical & Allied Industries
- R 433 million in Textiles
- R 352 million in Forestry and Wood Products
- R 323 million in Metals, Transport & Machinery Products
- R 283 million in Agro-industries
- R 148 million in Healthcare
- R 46 million in Media & Motion Pictures

1.1. Manufacturing Competitiveness Enhancement Programme (MCEP)

From the beginning of the financial year to date 236 enterprises were approved for funding under MCEP with a total grant value of R1 billion. The investment leveraged as a result is R 3.7 billion in support of 28,093 jobs.

- 4% of total MCEP grant approved went to small entities with assets below R 5 million;
- 10% went to those with assets between R 5 million and R 30 million;
- 25% went to entities with assets between R 30 million and R 200 million; and
- 61% went to entities with assets above R 200 million.

The dti has approved the newly revised Manufacturing Competitiveness Enhancement Programme (MCEP) guidelines for implementation from April 1 in a bid to tighten up potential imbalances in the awarding of manufacturing support grants.

Figure 26: MCEP grants

Source: the dti

<table>
<thead>
<tr>
<th>MCEP: Grant Amount by Province</th>
</tr>
</thead>
<tbody>
<tr>
<td>Province</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>EC</td>
</tr>
<tr>
<td>GAU</td>
</tr>
<tr>
<td>KZN</td>
</tr>
<tr>
<td>LIM</td>
</tr>
<tr>
<td>MPU</td>
</tr>
<tr>
<td>NW</td>
</tr>
<tr>
<td>WC</td>
</tr>
</tbody>
</table>
1.2. Tax incentive

Between April 2014 and December 2014, 12 projects with an investment value of R 5 billion were approved. These are expected to create 556 direct and 4,047 indirect jobs.

Figure 27: 12i Tax Incentive Distribution

2. SPECIAL ECONOMIC ZONES & INDUSTRIAL DEVELOPMENT

2.1. SEZs

- In 2014 President Zuma signed The Special Economic Zones (SEZ) Act. The Act will contribute to the revitalisation of previously under-served regions by driving greater volumes of foreign direct investment (FDI), strengthening the local manufacturing sector and creating significant numbers of new jobs.

2.2. IDZs

- Three of the five IDZs – Richards Bay, East London and Coega – are now fully operational and have generated R 3.4 billion in investments and creating more than 10,000 direct and indirect jobs. Further new investments worth several billion Rand are currently under negotiation.

- Richards Bay: The Richards Bay IDZ secured two significant new investments in 2014/15:
  - The first, by Graham absorption Systems (Pty) Ltd is for 3 hectares of land, plus the option of an additional 1 hectare. With a total investment of R 200 million, the facility is set to create 29 direct jobs and 110 indirect jobs.
  - The second investment, by RB Energy Services Pty (Ltd) for 1 hectare plus the option of an additional 1 hectare. The total investment is R 62 million, and it is expected to create 25 jobs in construction and 20 direct jobs upon completion.

- East London: The East London IDZ (ELIDZ) has to date attracted private sector investment to the value of R 4.4 billion, with more than 80% of this being Foreign Direct Investment. The total number of secured investors has grown to 34, with the bulk of these (25) already operating from the zone.

- Coega: Up to Q3 of the 2014-15 financial year, total investments to the value of R 5.3 billion had been secured, with an estimated 468 million jobs expected to be created.

- Seven companies are currently busy with construction projects in the Coega Development Corporation’s IDZ.

- First Automotive Works SA (FAW) – a subsidiary of the China FAW Group – has invested R 600 million in a truck assembly plant in the Coega IDZ, which will produce up to 5,000 trucks a year.

- Salabra: The Transnet National Ports Authority (TNPA) announced a R 2 billion maintenance programme over 5 years and a R 7.2 billion capital expenditure programme within a framework for private sector investments.

- The projects will create an estimated 6,300 new direct jobs and 25,200 new indirect jobs.

- Duba Trade port: The Duba Trade port IDZ was officially launched in October 2014.

- In its first phase of development – over the past five years – the DTP IDZ has attracted over R 900 million in private investment, creating around 16,527 new job opportunities. It is expected to secure over R 100 billion in further investments by 2020.

- The South Korean electronics giant Samsung recently agreed to establish its first African manufacturing facility at Duba with an investment value of R 2.2 billion.

The 12i Tax Incentive is designed to support greenfield investments (i.e. new industrial projects that utilise only new and unused manufacturing assets) as well as brownfield investments (i.e. expansions or upgrades of existing industrial projects). The incentive offers support for both capital investment and training.
In October 2014 Brenco Reelin - a joint venture between South African enterprise Reelin Bearings and US company Brenco, the largest rail component manufacturer in the world - signed a combined R 70 million deal which will see the construction of one of the most sophisticated bearing manufacturing and refurbishment facilities in the world.

3. PUBLIC PROCUREMENT

- Rail fleet procurement
  - The Passenger Rail Agency of South Africa (PRASA) and Gabela Rail Transportation announced that the entities had achieved commercial close on the contract to supply the state agency with 600 commuter trains (3,600 coaches) over the next ten years. The R 51 billion contract to supply the trains was signed in October 2013. The Gabela deal forms part of PRASA’s bigger rolling stock programme, which aims to procure 7,224 new coaches at a projected cost of R 123 billion over 20 years.
  - Transnet Freight Rail awarded a R 50 billion contract for the supply of 1,064 locomotives split amongst four successful bidders: 599 electric locomotives to be built by China South Rail Zhuzhou Flowing Technology, 277 diesel locomotives to be built by China South Rail Zhuzhou Bombardier Transportation and General Electric SA Technologies.
  - More than 300,000 non-compliant products valued at R 8 million were destroyed at the third Destruction-of-Goods function conducted in Bon Accord, Pretoria. To date, approximately R 153 million worth of non-compliant and unsafe products have been seized and removed from the market.

4. DEVELOPMENTAL TRADE POLICY

- Import duties and tariffs
  - ITAC continued to consolidate and realign itself to support strategic industrial development imperatives. This was reflected in the completion of 17 applications for increases, rebates and reductions of duties across various sectors.
  - Mass production of goods manufactured in South Africa.

5. COMPETITION POLICY

In an effort to stem anti-competitive behaviour, the Competition Commission fined a number of companies transgressing the Competition Act. These included:
- A penalty of R 5.54 billion penalty on a subsidiary of London-listed Lonmin for engaging in a concerted practice to fix the price of platinum.
- Four pharmaceutical companies were jointly awarded a R 3.68 billion award to 38 companies, including local manufacturers such as Aspen (56%), Adcock (2%), Sanofi-Aventis and its subsidiary Wyethtop (12%), Sanofi (3%) and Bio-Tecs (3%).
- A R 1.4bn tender for the designation of tug boats was awarded to a South African company in support of local procurement.
- A R 4 million imposed on Saldanha Foods for being involved in the price-fixing of pilchards and anchovies.
- Sonax Brands Limited and Premier Fishing SA previously paid penalties of R 47.7 million and R 2.1 million respectively.
- Columbus Stainless was fined R 32.57 million for entering into a price-fixing agreement or engaging in a concerted practice with its competitors to directly or indirectly fix the purchase price of scrap metal.
- Cargolux International has been fined €941,561 (R 10.97 million) for being part of a cartel with four other airlines, including South African Airways (SAA) that directly or indirectly fixed the selling prices for cargo services.
- Hendrik Potgieter & Co fined an administrative penalty of 10 per cent of its turnover over the period of the alleged price-fixing fixing the prices in the agricultural industry since 1995.
- Electric cable manufacturing company ATC has agreed to pay R 80.7 million after admitting to collusion.
B. SECTORAL HIGHLIGHTS

1. AUTOMOTIVE

- The Minister of Trade and Industry announced the acquisition of South Africa's Premier Valves Group (PVG) for R 700 million and stated that the transaction will fund the introduction of a new international standard for local production capability at the facility. PVG will also set up a resilient seal valve (RSV) manufacturing unit at the Alrode-based facility, producing up to 80,000 RSVs a year.

- Agri Seeds SA is soon to start production at its R 400 million facility in the Coega industrial development zone (IDZ). The high-tech smelting plant will concentrate on the assembly five- and six-ton trucks for the local market and the creation of a customer innovation centre (CIC) and a R 200 million investment in a supplier-development vehicle to provide technical, funding and business support to the value of R 11 million, Grindrod unveiled its C-Class project has received R 1.6-billion in government infrastructure contracts.

- The single largest investment project for AIS was Mercedes-Benz South Africa (MBSA)’s new factory in the Coega area. The project followed an investment of R 5.4 billion in plant and equipment, and more than 840 direct jobs in building infrastructure to support the new class.

- As part of its efforts to support the clothing, textile and leather sector, the dti approved a grant of R 682 million for the establishment of National Footwear and Leather Cluster through the Competitiveness Improvement Programme (CIP).

- Vehicle and component exports increased by 8.2%, from R 84.8 billion in 2012 to R 102.7 billion in 2013. This was the first time the industry exceeded the R100 billion mark. The local industry’s top export markets in value terms were Germany, reaching R 31.1 billion in exports, followed by the USA at R 18.7 billion.

- The acquisition of South Africa’s Premier Valves Group (PVG) for R 700 million in the creation of a customer innovation centre (CIC) and a R 200 million investment in a supplier-development vehicle to provide technical, funding and business support to small and medium-sized enterprises (SMEs).

- The trade deficit was reduced by R 1.4 billion, with 2,012 new formal jobs created in the footwear sector.

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The National Bargaining Council of the Leather Industry of South Africa (NBCL) has confirmed the establishment of 22 new manufacturers from January 2012 to 2013, with gross domestic capital formation of R 275 million in the leather and footwear sector from 2010 to 2013. This level of growth does not only reflect the emergence of new companies, it is also attributable to expansions of manufacturing operations by many existing companies in these sectors.

Company developments in 2014: Kape Shoes reopened in Embakasi. Eastern Cape in April, reoccupying 417 jobs; a new leather tannery was established in Atlantis in the Western Cape.

4. AGRICULTURE

The dti and Astral Foods supported a R 200 million chicken feed mill to boost South Africa’s agriculture sector. The dti has contributed R 282 million towards the development of the R 400 million farm near Kempton Park, which forms part of the Remco Group’s expansion of its operations.

As part of the South African Fruit and Vegetable Canning Association (PFVCA) initiative, Mr. Sipho Seepe, Minister of Agriculture, Forestry and Fisheries, unveiled a new 10-hectare peach orchard in Robertson. The orchard is 70% owned by a group of black women farmers, with the remainder of the costs being undertaken by Astral Foods, South Africa’s largest poultry producer.

The dti, in collaboration with FABOSCO, assisted in developing an insulator form for barley production in Kimberly through R 20m support it provided to Cape KwaZulu.

The dti has funded an R 88 million agro-processing facility announced by Coega Development Corporation (CDC). The facility, which is expected to be completed in two years, will provide the COM with electricity. In Jan 2015, the SEZ fund provided catalytic funding to support the development of the power plant.

In 2014/15, the dti supported agro-processing initiatives to the tune of R 1.2 billion through various schemes such as the MEC, the Manufacturing Investment Programme and the Enterprise Investment Programme.

The right for South Africa to securely geographical identifier status for rosolos has been granted, opening the way for aggressive expansion of rosolos exports into new markets. This new development was part of the announcement on the Economic Partnership Agreement between Southern African nations and the EU by the Department of Trade and Industry.

Since the beginning of the 2014/15 financial year to date, the Aquaculture Development and Enhancement Programme (ADEP) has supported 8 projects, with an investment value of R 75 million. Investment leveraged as a result is R 300 million and these projects are expected to create 121 new jobs.

5. PLASTICS

The Industrial Development Corporation (IDC) and the Department of Trade and Industry of South Africa were instrumental in Mount Louisa Limited to develop a R 150 million state-of-the-art polyethylene teraphthalate (PET) recycling plant. MCL is also part of the JSE listed manufacturing of paper and plastic packaging and a major paper recycler to plastics recycling.

6. BUSINESS PROCESS SERVICES (BPS)

The dti launched the revised Business Process Services (BPS) incentive at the AGS in August 2014, to support the remainder of the costs being undertaken by Astral Foods, South Africa’s largest poultry producer.

The revised incentive scheme will build upon the success of the previous scheme which led to the creation of 3,077 jobs on the back of financial disbursements of R 487 million.

The scheme will further support the South African Value Proposition, which has an off-take agreement to support the “Best Offshoring Destination – 2012” by the UK’s National Outsourcing Association (NOA).

Webhelp, a French-owned Global Contact Centre company which has contact centers in Belgium, France, Germany, Morocco, Netherlands, Romania and the UK, launched its new Johannesburg Contact Centre in April 2014. The investment is expected to rise to more than R 520 million over three years and has thus far created 200 jobs.

The Minister of Trade and Industry, Dr Rob Davies, and King Goodwill Zwelithini launched CCI Call Centres in Umbumbu, KwaZulu-Natal with an investment value of R 80 million. This will increase the number of jobs from 3,100 to 5,300.

CCI Call Centres is a beneficiary of the dti’s BPS Incentive and has participated in the Monyetla Work Readiness Programme which prepares those under 35 and previously unemployed for the workplace through training and development.

7. AEROSPACE

Denel Aero-structures (DAe) has been awarded a R 200 million contract to make parts for the Airbus A400M military transport and air-to-air refueling aircraft.

8. NUCLEAR ENERGY

The dti officially launched a new Training Centre that will take South Africa’s nuclear safety management status to a new, significantly higher level.

This will be given effect through a R 3 million contribution towards laboratory equipment for Radiation Protection Officers (RPOs) at the South Africa Nuclear Energy Corporation’s (Necsa) U’sFana Radiation Protection Training Centre in Pretoria, North West province.

9. GREEN INDUSTRIES

The roll-out of the REIPPPP (Renewable Energy Independent Power Producer Procurement Programmes) - which started in 2011 - has to date awarded R 944 KW to bid windows per period of a period of 3 years. Most projects have been allocated to the solar photo-voltaic and wind energy technologies.

One of the bid windows, the renewable energy sector has committed investments totaling R 120 billion, of which R 30 billion was committed to local content requirements for the project.

The dti has strengthened the local content requirement, with every successive bidding round scaling up thresholds and targets. The local content requirements for renewable energy have progressed from a threshold of 25% in bid window 1 to a threshold of 40% in bid window 2 and a target of 40% and 60% in Bid Windows 3 and 4 respectively.

These local content requirements, coupled with the dti’s trade and investment promotion activities, have resulted in a new of number investments establishing local manufacturing and assembly facilities for renewable energy components. These include:

- In December 2014, SAA Solar Technology South Africa, the market leader for solar has officially launched its multi-million rand manufacturing facility in Cape Town.

- The Chinese company Solaris Solar opened its R 100 million, 12,000 kW/solar PV plant, also in Cape Town. The facility is expected to create 200 jobs. The dti helped Solaris Solar secure the award through the development of its multi-site factory facility.

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10. BENEFICIATION

In 2014/15, the dti’s SEZ fund provided catalytic funding to support the headquartering and regionalization of the Romeo Group’s regional headquarters to South Africa. This is a world class demonstration currently being commissioned to provide a platform for the SEZ fund and other initiatives. The dti’s SEZ fund and other initiatives.

11. UPSTREAM OIL & GAS

The dti has funded an R 86 million agro-processing facility announced by Coega Development Corporation (CDC) was instrumental in Mpact Limited’s decision to build a R 200 million, 40,000 ton per month mill, with the remainder of the costs being undertaken by Astral Foods, South Africa’s largest poultry producer.

The dti, in collaboration with FABOSCO, assisted in developing an insulator form for barley production in Kimberly through R 20m support it provided to Cape KwaZulu.

In 2014/15, the dti supported agro-processing initiatives to the tune of R 1.2 billion through various schemes such as the MEC, the Manufacturing Investment Programme and the Enterprise Investment Programme.

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12. WHITE GOODS

- The dti supported the expansion of the Defy 'Side-by-Side' refrigerator production facility - worth more than R 120 million - in East London. The local manufacturing of the Side-by-Side refrigerators will reduce some of the imports of these type of refrigerators.
- It also provided a grant of R 30 million in support of an investment of ± R 200 million in upgrading Defy's Ezakheni factory in Ladysmith.

13. FILM

- IDC and the National Film and Video Foundation (NFVF) launched the Emerging Black FilmMakers Transformation Fund (EBFTF) aimed at assisting new black filmmakers. The fund will assist 18 films over the next three years with R5 million per film. In addition, IDC will continue to support funding for other film productions as well as development of other areas of the film value chain.
- The Minister of Trade and Industry launched the newly developed R 1 million threshold South African Emerging Black Film-Makers Incentive Programme. The objective of the programme is to support emerging black filmmakers with the intention to nurture and grow them to take up big productions and thus contribute towards employment creation.
- The domestic film expenditure threshold required for producers to benefit from government incentives was also reduced from R10m to R500,000, allowing small productions to benefit from the rebate scheme, which took effect in October 2014. Of the R8bn spent domestically on film production, government has paid out R2bn under the rebate scheme.
- 94 projects to the value of R654m were supported between April and December 2014. These projects include foreign blockbusters such as Avengers 2: Age of Ultron, The Last Face, Childhood’s End, Grimsby, Boss to School, Mom and Eye in the Sky. Local productions supported included Andani and the Mechanic, Schuster 2015, Chemo Club, Mandela’s Children, Enlisted for Glory and Free State.
- Series supported include: Homeland; Dominion (Season 1 & 2); Hunters; Blood Brothers; Wildlife Odyssey; Soul City and ZANews.
TRANSVERSAL INTERVENTIONS
IPAP TRANSVERSAL INTERVENTIONS

1. Public Procurement

Public procurement accounts for a sizeable part of many economies in both developed and developing countries, typically contributing between 15% and 25% to GDP. It is regarded as a subset of public sector expenditure and government uses its significant purchasing power to stimulate economic development, transform services and fast-track service delivery. Given its economic significance, public procurement has the potential to stimulate the creation of new industrial capacity, production, demand and consumption trends in favour of innovative, socially responsible, environmentally friendly products and services on a large scale.

In South Africa, public procurement is deployed as a policy instrument to leverage public spending in order to promote a wide range of economic, social and environmental policies. It is integrated with a number of the policy objectives set out in the National Development Plan (NDP), New Growth Path (NGP) and, of course, the Industrial Policy Action Plan (IPAP). It also contributes to the creation of markets for appropriate technologies and innovative solutions.

Through the powers conferred on it by the revised Preferential Procurement Policy Framework Act (PPFPA) regulations of 7 December 2011, the dti has designated a number of industries, sectors and sub-sectors for local production, at specified levels of local content. Products already designated for local production are: pharmaceutical products, furniture products, electricity meters, valves and actuators, clothing, textile, leather and footwear (CTLF) sector.

Other procurement levers being used by government to leverage industrial development in general - and more specifically, to assist emerging suppliers in strategic industrial capability development. It drives up local content levels, enhances the competitiveness of national industry, develops new industrial capabilities and ultimately increases exports. Procurement leverage instruments to achieve industrial development objectives can be integrated with, and at times supplemented by, mechanisms to achieve black economic empowerment objectives.

All of this requires continuously improved harmonisation of the existing raft of procurement support instruments. In addition to the NIPP, the CSDP and designations, other important instruments include the Defence Industry Participation Program (DIPP), the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and the Local Procurement Accord. Cabinet has endorsed a programme to (i) enable, and where required enforce, compliance; (ii) review and where necessary alter and align relevant policies; and (iii) provide support for the design and implement of strategic interventions to optimise the value that is extracted from large scale procurements.

In December 2012, Cabinet approved the strengthening of NIPP and its better alignment with other procurement programmes - in particular, the CSDP and local procurement support instruments. In addition to the NIPP, the CSDP and designations, other important instruments include the Defence Industry Participation Program (DIPP), the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) and the Local Procurement Accord. Cabinet has endorsed a programme to (i) enable, and where required enforce, compliance; (ii) review and where necessary alter and align relevant policies; and (iii) provide support for the design and implement of strategic interventions to optimise the value that is extracted from large scale procurements.

National Industrial Participation Programme (NIPP)

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The introduction of Direct NIP also presents new challenges for companies wanting to fulfil their NIP obligations, as their range of projects becomes limited. Therefore, separate NIP industrial development sector strategies need to be developed for the different sectors in order to direct investment and activities to those areas that are in line with sector strategies or support further industrialisation in those sectors. The new NIP strategic priority areas for the future development of the local industry is dependent on its adapting continuously to the needs of global markets. Therefore, the development of formal strategies will be developed in conjunction with the sector desks; and once developed could either become part of the general NIP Guidelines or could be included as annexures to tender documents. Key opportunities
- Provide support for some sector development work where limited support is available.
- Targeted interventions to address specific government industrial development strategies.
- Close alignment between the national industrial participation programmes and the work of sector desks.
- Provide more certainty/clearly to companies on the requirements and better long-term NIP plans to build industrial capabilities.

Key constraints
- Limited opportunities for large contracts.
- Information about tenders sometimes available only after the tender has been awarded.
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Key milestones
2015/16 Q1-Q4: The production of detailed guidelines the dti (with the support of National Treasury) defining when relevant policies are applicable, and the processes that must be followed to comply with these policies.
2015/16 Q1-Q4: Joint departmental information and training sessions across the country on the guidelines, compliance requirements and adherence to the policies.
2015/16 Q1-Q4: The integration of procurement leverage policies into the government and SOC auditing and reporting frameworks.
2015/16 Q1-Q4: Implement a monitoring and evaluation tool for designated sectors.

Lead departments/agencies: dti, EDD and SARS
Supporting departments/agencies: NT, National and Provincial Departments, ITAC, SARS and AG

Nature and Purpose of the Intervention
Coordinated programme across government departments and agencies to address poor compliance, limited capacity and challenges associated with procurement policies and programmes.

Targeted outcomes
Improved compliance through better coordination and enhanced procurement leverage capacities.

Key Action Programmes
1. Strengthening of the Compliance Programme
Targeted milestones
2015/16 Q1-Q4: Review of technical specifications on the calculation and measurement of local content.
2015/16 Q1-Q4: Implement a monitoring and evaluation tool for designated sectors.

Supporting departments/agencies: NT, National and Provincial Departments, ITAC, SARS and AG

2. Designation of further sectors for local procurement
Further ‘waves’ of designation will follow and in keeping with the priorities of the IPAP: designation of sector/sub-sectors for local procurement.
- Review of the canned and processed food instruction note to include the entire food-sector.
- Metal fabrication, capital equipment and transport equipment.
- Green industries and components of the renewable energy generation build programme.
- Bag ticket items defined in government’s strategic infrastructure projects at all levels of government.

Key milestones
2015/16 Q1-Q4: Review of research work done by Sector Desks for further designation of sector/sub-sectors for local procurement.
2015/16 Q1-Q4: Issue procurement instruction notes for designated sectors.
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Lead departments/agencies: dti, EDD and SARS
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3. Design a NIP Industrial Development Strategy for ICT
Nature and purpose of the intervention
A significant obstacle to meeting NIP obligations in the ICT sector is the reality that the great majority of the companies involved in selling products or services that are not produced locally and are mostly fully imported – e.g. networking equipment and software products. The transnational companies providing these products/services often struggle to find suitable projects to fulfill their NIP obligations – especially the requirements of Direct NIP.
It therefore becomes necessary to develop a strategy for more effective fulfilment of these obligations and to provide stronger support the work of the sector desk in developing more sophisticated local manufacturing capacities in the ICT sector.

Targeted outcomes
The future development of the local industry is dependent on its adapting continuously to new technology applications and market opportunities, growing exports and securing large contracts in public, private and multilateral markets. Given that the value chain in the ICT sector includes input materials, component manufacturing, sub-assembly (or final assembly in some cases), software development and retail, it is imperative that NIP policies are deployed in specific areas of the business that seeks to deliver on the following:
- Software development /customisation;
- Research and Development into new solutions/applications;
- Technology Transfer (Quality accreditation and Certification);
- Component manufacturing;
- Sub-assembly;
- Business process improvements.
Key Milestones

2015/16: Q1 – Q2:
In conjunction with the sector desk, identify priority areas in which industrial development capability improvements should be supported. Consult with transnational companies with NIP obligations on developing an effective approach to the identified areas.

2015/16: Q3 – Q4:
Develop a NIP programme to specifically support the local ICT sector.
Lead Department: the dti.
Supporting Departments/Institutions: Department of Science and Technology, Department of Posts and Telecommunications.

4. Design a NIP industrial development programme for the defence industry
Nature and purpose of the intervention
For defence procurement, both the National Industrial Participation Programme (NIPP) and the Defence Industrial Participation Programme (DIPP) are applicable. The primary policy objectives of both the NIPP and DIPP programmes are similar in that both seek to: (i) increase local manufacturing capability; (ii) create international market access for local value-added goods related to particular tenders; and (iii) support both technology transfer and research and development.

Previously NIPP was used to support industrialisation in sectors outside of the defence-related industry. The shift in emphasis towards Direct NIP means that NIP activities must now be primarily directed at the defence-related industries, seeking to target the same sectors as DIPP.

There is thus a need to develop a programme/strategy that will align the two instruments whilst avoiding duplication of activities.

Targeted outcomes
Successful implementation of this key action plan will lead to alignment of the NIPP and DIPP programmes and maximise their combined value to the local defence industry.

Targeted outcomes

6. Design a NIP industrial development programme for the automotive sector
Nature and purpose of the intervention
National Treasury, through its RT57 tender system, awards automotive companies contracts to supply various types of vehicles for the different organs of state. Most of these contracts attract NIP obligations. The types of proposals that are submitted to fulfil these NIP obligations are typically the same proposals submitted for the automotive incentives. They are thus mainly driven by incentives as opposed to NIP obligations and the case for the principle of causality is always weak.

It is therefore necessary to identify areas for automotive companies to fulfil their NIP obligations and seek to increase localisation beyond the range of automotive components currently being manufactured.

Targeted outcomes
Support further localisation in the automotive sector by identifying key/strategic components for companies with NIP obligations to focus on.

Key Milestones

2015/16: Q1 – Q2:
Consult with Department of Defence, Armscor and other relevant stakeholders.

2015/16: Q3 – Q4:
Develop a NIP programme to support industrial development in the defence industry.
Lead Department: the dti.
Supporting Departments/Institutions: Department of Defence and Armscor.

5. Develop NIP industrial development strategy for the pharmaceutical sector
Nature and purpose of the intervention
The pharmaceutical industry in South Africa is dominated by a number of multinational companies that are doing very little manufacturing in South Africa. Most pharmaceutical tenders attract huge imports. To date the potential of obligations in the pharmaceutical sector amount to almost R 5 billion combined. This offers a huge opportunity for industrial development. The key challenge is the need to balance the security of supplies of essential medicines at affordable prices and the need to reduce imports.

Targeted outcomes
Develop and implement programmes that support key priorities for the development of the pharmaceutical industry. These programmes should also help reduce imports and support measures to increase industry competitiveness.

Key Milestones

2015/16: Q1 – Q2:
Consult with various stakeholders and identify key priorities and key opportunities for which NIP could be employed to support the sector.

2015/16: Q3 – Q4:
NIP Programme to support key priority areas in the sector.
Lead Department: the dti.
Supporting Departments/Institutions: Department of Health.

6. Design a NIP industrial development programme for the automotive sector
Nature and purpose of the intervention
For defence procurement, both the National Industrial Participation Programme (NIPP) and the Defence Industrial Participation Programme (DIPP) are applicable. The primary policy objectives of both the NIPP and DIPP programmes are similar in that both seek to: (i) increase local manufacturing capability; (ii) create international market access for local value-added goods related to particular tenders; and (iii) support both technology transfer and research and development.

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There is thus a need to develop a programme/strategy that will align the two instruments whilst avoiding duplication of activities.

Targeted outcomes
Successful implementation of this key action plan will lead to alignment of the NIPP and DIPP programmes and maximise their combined value to the local defence industry, as well as contributing to domestic manufacturing capability and capacity, industry competitiveness and the creation of new jobs that can be directly linked to the NIPP or DIPP.
2. Industrial Financing

Successive iterations of IPAP have sought to strengthen the financing sphere which continue to retard the development of the manufacturing sector. Financing is an essential ingredient for the commercialisation of new technologies and delivering innovation in equipment and systems. The existence of a useful and attractive debt finance market is essential for the development of potential industrial development projects, and the existing suite of government support measures has been steadily strengthened and recalibrated in recent years to take account of a highly challenging and competitive global economy – especially during the great global recession – while at the same time ensuring optimal benefits performance in return for public sector support.

The inability and competitiveness of the manufacturing sector in a highly competitive global economy is dependent in many ways upon the availability, cost terms and conditions of a national industrial financing and incentive package. The shaping of such a package can have a very significant, direct and measurable effect on its ability to attract technology, adopt and commercialise new technologies and deliver innovation in equipment and systems. An effective industrial financing system has to be more than the sum of its parts. The existing suite of government support measures has been steadily strengthened and recalibrated in recent years to take account of a highly challenging and competitive global economy – especially during the great global recession – while at the same time ensuring optimal benefits performance in return for public sector support.

Successive iterations of IPAP have sought to strengthen the financing sphere which continue to retard the development of the manufacturing sector. Participation of the private sector in the developmental activities of the State is critical to achieving greater alignment between the activities of other financial institutions – both because of the length of time required to transition inputs to final product and because of the asymmetry of power in favour of downstream firms. These two factors combine to retard the development of new incentive packages that are more comprehensive, focused and provide better value for money. Achieving both a better balance between the incentives offered, the conditions imposed and the rate of return required on the support measures more strongly to performance measures such as increasing the placement in local and international markets and greater value addition, employment creation and localisation in support chains.

A market failure exists in the private finance sector is not adequately aggregating savings and making them available - under appropriate terms and conditions - for fixed investment in long-term 'bricks and mortar' investment. This is a result of the inherent asset-liability mismatch within the financial sector.

Consequently, banks have consistently demonstrated a reluctance to channel funds towards relatively less well entrenched or established industries (particularly manufacturing industries) which require longer-term investment horizons and grace periods for new entrants. At the same time, as indicated earlier on, the scarcity of working capital acts as a brake on the operational performance of many firms, particularly in the start-up, new technology commercialisation and incremental increases in production and value addition, employment creation and localisation in supply chains.

The existing suite of government support measures has been steadily strengthened and recalibrated in recent years to take account of a highly challenging and competitive global economy and key constraints and structural problems in the domestic economy. Building on this – and driven by the dti, the Department of Science and Technology (DST) and the Industrial Development Corporation (IDC) – the new industrial financing architecture has been put in place – with a particular focus on the following issues:

- Understanding the characteristics of those firms that utilise domestic government support.
- Understanding the characteristics of those firms that continue to be successful and those that are not.
- Improving the nature of the support provided.

Achieving greater alignment between the activities of other financial institutions – both because of the length of time required to transition inputs to final product and because of the asymmetry of power in favour of downstream firms. These two factors combine to retard the development of new incentive packages that are more comprehensive, focused and provide better value for money. Achieving both a better balance between the incentives offered, the conditions imposed and the rate of return required on the support measures more strongly to performance measures such as increasing the placement in local and international markets and greater value addition, employment creation and localisation in support chains.

The manufacturing Competitiveness Enhancement Programme (MCPo), launched in 2012, provided an important stepping stone on the path towards such a system. The MCPo was designed to assist manufacturing firms to improve their competitiveness by providing credit as the upgrade of production facilities, processes, products and systems. It also provided support for capital investment, working capital and pre-shipment finance; feasibility studies; value chain localisation and supplier development; cluster studies; new market access; and energy efficiency upgrading.

It is clear that any analysis of the economic data and analysis section of IPAP 2015/16 that government support for manufacturing, including the MCPo, played a critical role in retaining both strategic industrial capabilities and the diversity of manufacturing capacity in the domestic economy.

A market failure exists in the private financial sector is not adequately aggregating savings and making them available - under appropriate terms and conditions - for fixed investment in long-term 'bricks and mortar' investment. This is a result of the inherent asset-liability mismatch within the financial sector.

The scarcity of readily available working capital acts as a brake on the operational performance of many firms, particularly in the start-up, new technology commercialisation and incremental increases in production and value addition, employment creation and localisation in supply chains.

The private sector venture capital market in South Africa is weak. The private sector venture capital market in South Africa is weak. This is a result of the inherent asset-liability mismatch within the financial sector.

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It is critical that the manufacturing sector is provided with continuing support for the duration of the slow and uncertain journey towards global economic recovery, in order to maintain a reasonably robust tempo of growth and defend both its diversity and our existing domestic industrial capabilities.

Targeted outcomes

Greater levels of competitiveness arising from access to industrial financing for working capital; product development; new market access, energy efficiency, clustering and other potential outcomes not specifically covered in existing incentive schemes — including enhanced support for MSEs in the manufacturing sector.

Key Milestones

2015/14 Q1: Scope the design, range, quantum, conditions, take-up and impact of the full suite of government industrial financing packages and invoices across and in consultation with other departments and institutions.

2015/14 Q2: Develop and design a set of proposals for incremental expansion and strengthening of the suite of existing incentive and industrial finance support mechanisms, beginning with further fine-tuning of the: (i) IDC; and (ii) a specialised incentive to support black industrialisation in the manufacturing sector and culminating in the design and adoption of a comprehensive system of industrial financing and incentives.

Lead departments: the dti and EDD.

Supporting departments/agencies: IDC, ECIC, DST, NEF, DBSA.

2. Black Industrialists Development Programme

Nature of the intervention

The Black Industrialists Development Programme will be aimed at promoting industrialisation, sustainable economic growth and transformation through support of black-owned entities in the mainstream of South African manufacturing industry and related manufacturing service sectors.

The Programme envisages implementing key measures such as access to finance, access to markets, skills development, standards, quality and productivity improvements by black manufacturers, by the economy.

Recommendations from the commissions reporting back at the Black Industrialists Initiative of 25-26 March 2015 included the following:

1. a committee comprising government, the private sector and co-opted experts be established to explore more ways and instruments to accelerate the implementation of the Programme.

2. Review of the Preferential Public Procurement Act;


4. The Programme envisages implementing key measures such as access to finance, access to markets, skills development, standards, quality and productivity improvements by black manufacturers, by the economy.

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3. Developmental trade policy

Technical Infrastructure

Technical infrastructure plays a pivotal role in economic growth by promoting competitiveness and fair trade in domestic and international markets, building business confidence and consumer confidence in products and services, protecting consumer health and welfare, ensuring product safety and providing assurance of reliability and quality.

The technical infrastructure system is also known as quality infrastructure and refers to all services, policies, standards and conformity assessment mechanisms such as testing, inspection and certification.

The four institutions responsible for implementing technical infrastructure policies are the South African National Accreditation System, the National Regulator for Compulsory Specifications (NRCS), the South African Bureau of Standards (SABS) and the National Metrology Institute of South Africa (NMISA). The technical infrastructure framework in South Africa ensures that products manufactured, exported and imported are of the required quality, meeting international standards and requirements.

The technical infrastructure institutions — together with ITAC and SARS — play a vital role in the battle to keep the marketplace free of non-compliant and unsafe products, testing for fraud and illegal imports, smuggling and under-invoicing — all of which hamper productive capacity and industrial growth, thereby also impacting negatively on employment creation.

The border enforcement project of the NRCS, coupled with implementation of its risk-based model, is now scaling up in market surveillance with an emphasis on improvements related to the rigor with which the letter of Authority processes is applied. The initial approval is supported by sampling and testing of the regulated products at accredited testing facilities. In parallel, the SABS is also scaling up its test facilities to ensure that they will be able to test products to the compulsions of the NRCS.

A firm technical infrastructure framework has a direct impact on the economy and can strengthen industrial development by building capable domestic manufacturing base producing quality products that are not swamped by low-quality and ‘grey’ imports.

Economic Rational

South African companies are faced with a wide range of critical challenges arising from the intense international competition for capital, rising input costs (especially electricity) and low and falling levels of investment in the productive sectors of the economy. This is intended to promote their participation as manufacturers in the key productive sectors of the economy, and as suppliers of goods and services to the public infrastructure programme.

This initiative will be underpinned by systematic and purposeful support for the inclusion of black industrialists along the entire value chain of industrial sectors and infrastructure projects. This will be achieved through financial and non-financial support under the IDC’s existing and new incentive schemes. As part of the transformation agenda, black industrialists have been identified as vital protagonists for black economic empowerment, job creation, enterprise and industrial development. These ambitions find expression in key policies such as the amended Black Economic Empowerment Act and the National Industrial Policy Framework (NIPF).
At the same time it encourages industry to achieve the international quality standards that must be met in order to export successfully into foreign markets. The technical infrastructure institutions are aligned with the state’s coordinated drive to scale up industry policy, with a strong focus on priority sectors that have been identified for expansion: namely, green industries, agro-processing and metal fabrication, capital and rail transport equipment, advanced materials and textiles, and footwear production.

Key opportunities for improved performance

The key areas in which the Technical Infrastructure Institutions will be aiming to up their game over the coming three years include:

- Achieving an increasingly integrated and coordinated approach to the handling of all industrial and trade-related matters.
- Ensuring that a long term strategy is taken in charting the future direction of their interventions, including updating their respective legislative mandates and strengthening their human capacity and technical capabilities.
- Providing training programmes and courses on international standards and legislative requirements to better equip emerging industries to compete in domestic and international markets.
- Strengthening the enforcement of existing mandatory standards to protect consumers from inferior and sub-standard products and strengthen business confidence.
- New investment in measurement capabilities, the introduction of additional voluntary and mandatory standards and accreditation programmes that will foster improved, accurate, internationally accepted measurement to effectively monitor purposes, any delay in the implementation of regulations impacts negatively on the confidence in locally manufactured products.

Re-aligned and synchronised technical infrastructure activities with IPAP

1. Realignment of technical infrastructure activities with IPAP sectors

**Nature and Purpose of the intervention**

Strengthening and aligning the activities of technical infrastructure institutions with IPAP priorities through the development of accurate measurement and testing capabilities, standards, compulsory specifications and accreditation programmes that serve sector priorities.

**Targeted outcome**

Re-aligned and synchronised technical infrastructure institutions’ activities, better able to support IPAP priorities.

In line with the approach adopted in the previous IPAP iteration, the technical infrastructure institutions as a collective developed a framework for the appraisal of existing national policies applicable to each IPAP sector, including IPAP-specific objectives.

This resulted in synchronised Action Plans in the following sectors: green industries; metal fabrication, capital and rail transport equipment; information and communications technology; advanced materials; clothing, textiles, leather and footwear; plastic, pharmaceuticals, chemicals and cosmetics; automotive products; and components for the nuclear industry. The key milestones in the identified sectors below reflect targeted responses to the gaps that were identified during this process.

**Green industries**

Key milestones

<table>
<thead>
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<tr>
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<tr>
<td>2015/16-Q3</td>
<td>Project implementation for a new standard on olive oil and additional standards for canned fish, canned marine molluscs and canned crustaceans and other products derived from them.</td>
</tr>
<tr>
<td>2015/16-Q2</td>
<td>Project implementation to setup the laboratory to test air conditioners in support of NRCS regulations on energy efficiency requirements and labelling.</td>
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<td>Project implementation for the revision of the current standard on canned fish, canned marine molluscs and canned crustaceans and other products derived from them.</td>
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**Agro-processing**

Key milestones

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</tbody>
</table>

**Lead departments/ agencies:** NAMA, NIES, SABI, SANAS.
2015/16 Q4 – 2017/18 Q4: Continue to develop new reference measurements for pesticides and inorganic elements in environmental and food matrices.

2015/16 Q4 - 2017/18 Q4: Provide reference materials for mycotoxins and inorganic elements in food matrices.

2015/16 Q4 - 2017/18 Q4: Provide reference measurement capability for brominated and chlorinated contaminants in environmental and food matrices.

2015/16 Q4: Amendment of VC B08, the Compulsory Specification for canned meat products.

2015/16 Q4: Development of analytical capabilities for monitoring of Plastics, Pharmaceuticals, Chemicals, Cosmetics.

2016/17 Q4: Amendment of VC B04, the Compulsory Specification for canned fish products.

2016/17 Q4: Amendment of VC B03, the Compulsory Specification for canned meat products.

2017/18 Q4: Develop reference measurement capability for amino-acids in food, in support of food labelling regulation.

Lead departments/ agencies: NMISA, NRCS, SABS.

Automotive Products and Components

Key milestones

2015/16 Q4: Amendment of VC B01, the Compulsory Specification for hydraulic brake and clutch fluid.

2015/16 Q4: Finalise the amendment of Compulsory Specifications VC B02, B03, B04 and B05, to add further safety features to automotive vehicles and align SA requirements with the latest UN (ECE) requirements.

2015/16 Q4: Finalise the amendment of Compulsory Specifications VC B056 and B059 for pneumatic tyres for passenger and commercial vehicles.


2015/16 Q4: Project implementation for new standards on electric vehicle conductive and charging system (various parts).

2015/16 Q4: Recapitulation of national dimensional and torque measurement laboratories, in support of the automotive sector.

2017/18 Q4: Upgrade of the national Force Measurement laboratories, in support of the transport, manufacturing and automotive sectors.

Lead departments/ agencies: NMISA, NRCS, SABS.

Biofuels

Key milestones

2015/16 Q4: Develop reference benchmarks in support of accurate measurement requirements for biofuels.

Lead departments/ agencies: NMISA.

Plastics, Pharmaceuticals, Chemicals, Cosmetics

Key milestones


2015/16 Q2: Project implementation for the development of standards for traditional medicines.

2015/16 Q2: Conduct a feasibility study for the development of a Compulsory Specification for cement products.

2015/16 Q2: Procure and install an advanced microscope that can provide 3D reference measurements to determine the sizes of fine to coarse dust particles.

2016/17 Q4: In support of air monitoring, provide reference measurements to determine the sizes of fine to coarse dust particles.

2016/17 Q4: Finalise the amendment of Compulsory Specifications, VC 8022, 8023, 8024 and 8025, to add further safety features to automotive connectors and conductive and charging system (various parts).

2016/17 Q4: Refurbishment of textiles laboratory to continue supporting the requirements of the transport, manufacturing and automotive sectors.

2016/17 Q4: In support of the local metal industry, establish surface consignment inspection services.

2016/17 Q4: Build capability to perform 3D reference diagnostic measurements from blood samples in support of clinical diagnostics.

2016/17 Q4: Conduct a feasibility study for the development of a Compulsory Specification for Braking systems.

Lead departments/ agencies: NMISA, NRCS, SABS.

Electro-technical

Key milestones

2015/16 Q2: Project implementation for the revision of safety standards on household and similar electrical appliances.

2015/16 – 2017/18 Q4: Conduct a feasibility study to establish the market requirement for national measurement standards for high voltage direct current.

2015/16 Q2: Project implementation for new standards on fuel cell technologies (various parts).

Resources project).

and other minerals (SABS and Department of Mineral verification tests on the qualities and quantities of coal on detonators, relays and initiating devices for the rail industry.

Compulsory Specification for Bin liners.

Compulsory Specification for damp courses in buildings.

Compulsory Specification for hydraulic brake and clutch fluid.

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Key milestones

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2015/16 – 2017/18 Q4: Conduct a feasibility study to establish the market requirement for national measurement standards for high voltage direct current.

2015/16 Q2: Project implementation for new standards on fuel cell technologies (various parts).
2015/16 Q3: Amendment of VC 8036, the Compulsory Specification for circuit breakers.

2015/16 Q4: Project implement for new standards on communication networks and systems for power utility automation (various parts).


Information Communications Technology (ICT)


2016/17 Q4: Project implement for a new standard on Direct to home telecommunication systems.

2016/17 Q4: Support the SABS through traceable measurements in information and measurement technology.

Lead departments/ agencies: NMISA, NMAR, SABS, SANAS.

Nuclear energy

Key milestones

2015/16 - 2017/18 Q4: Support the South African nuclear regulatory bodies (DOH and NNR) in fulfilling their mandate through traceable measurements and technical expertise.

2016/17 Q2: Support the SABS through traceable measurements in monitoring radiation workers in the country.

2016/17 Q4: Develop and roll out an Accreditation Programme for nuclear pressure equipment and component inspection and facility management system certification.

2016/17 Q4: Identify technical experts and train SANAS technical assessors.

Lead departments/ agencies: the dti, NMISA, SANAS.

ICT

Key milestones

2016/17 Q4: Upgrade the national measurement standards required to perform diagnostic network tests on fibre-optic and wireless telecommunication systems.

2015/16 Q3: Requirements for Legal Metrology Administrative Regulations finalised.

2015/16 Q4: Preparation of an accreditation response to the Legal Metrology Act.


2016/17 Q4: New NBR Part 08 for water-efficient building regulations.

2016/17 Q4: Conduct a feasibility study for the development of a Compulsory Specification for Intelli in construction.


2016/17 Q4: Conduct a feasibility study for the development of a Compulsory Specification for timber roof trusses and punched metal fasteners.

2016/17 Q4: Conduct a feasibility study to assess the need for an accreditation programme on Construction Management.

2016/17 Q4 - 2017/18 Q4: National Building Regulations and Building Standards Bill drafted; Parliamentary legislative process.

2017/18 Q2: Amendment of relevant National Building Regulations to include plumbing requirements as per the Water Act.

Lead departments/ agencies: the dti, NRCS, SANAS.

Strategic direction of the South African technical infrastructure


2017/18 Q4: Legislative review of the technical infrastructure – an investigation into the effectiveness of the four governing Acts and recommendations on necessary amendments.

Lead departments/ agencies: the dti.

Supporting departments/ agencies: NMISA, NRCS, SABS, SANAS.

Strengthening the enforcement system of NRCS

Key milestones

2016/17 Q4: Finalise gas analysis research report to inform the NRCS risk-based strategy aimed at improving NRCS coverage of the higher-risk industries; draft appropriate regulations.

2016/17 Q4: Revision of the Legal Metrology Technical Regulation for water meters for hot water.

2016/17 Q4: Revision of the Legal Metrology Technical Regulation for liquid fuel dispensers to include technical regulations for all dynamic measuring systems for liquids other than water.

2016/17 Q4: The Development of a new Compulsory Specification for hot cold potable water to additionally include technical regulation for water meters for hot water.

2016/17 Q4: Develop a Legal Metrology Technical Regulation for road and rail traffic systems for facilities to include technical regulation for measuring instruments and gas meters.

Lead departments/ agencies: the dti, NRCS, SABS.

Accreditation programme rollout

Key milestones

2017/18 Q4: Conduct a feasibility study on an Accreditation programme for Asset Management.

Lead departments/ agencies: the dti, SANAS.

SMME support

2015/16 Q4: The SABS Design Institute is establishing a Rapid Accelerator Centre for social, technological and business innovation to support SMMEs in the energy, communications and transport sectors, amongst others. The following deliverables are planned:

- 10 SMMEs to be supported and developed through design methodologies into sustainable businesses; and
- 10 Start-ups and new ideas to be supported and developed into products that are ready to enter the commercialisation phases geared towards the supply chain of key partners.


2016/17 Q4: Revision of the Legal Metrology Technical Regulation for liquid fuel dispensers to include technical regulations for all dynamic measuring systems for liquids other than water.

2016/17 Q4: The Development of a new Compulsory Specification for hot cold potable water to additionally include technical regulation for water meters for hot water.

2016/17 Q4: Develop a Legislation Technical Regulation for road and rail traffic systems for facilities to include technical regulation for measuring instruments and gas meters.

Lead departments/ agencies: the dti, NRCS, SABS.
2015/16 – 2017/18: Strengthening of a range of measures – including closer collaboration between the dti, industry, NCRS, SABS, CIPC (on counterfeit goods) and SARS – through multi-sectoral forums such as the Ports of Entry Control Centre that targets SA border posts.

2015/16 – 2017/18: Extend application of the Indicative Reference Price System to other vulnerable sectors to provide an increasingly effective early warning system.

2015/16 – 2017/18: Ongoing development of programmes aimed at improving compliance within industry and contributing to the formulation of best practice in the facilitation of trade, in accordance with all the Acts administered by SARS.

2015/16 – 2017/18: Conduct continuous targeted investigations and raids, on non-compliant products, confiscation of substandard and illegal products of individuals and companies that are in breach of the law; search and seizure missions to include goods for export.

Lead departments/agencies: NT, EDD and SARS.

Supporting departments/agencies: the dti, NCRS, SABS, CIPC, ITAC.

Nature and purpose of the intervention

South Africa’s tariff framework is administered by the International Trade Administration Commission (ITAC) in accordance with SA’s obligations to the World Trade Organisation. It adopts a strategic approach to tariff-setting and policy is on a sector-by-sector basis and is informed by different sector strategies. Therefore, both developmental tariff reform and tariff setting are continuous on-going interventions.

Targeted outcomes

Nature and purpose of the intervention

Ongoing developmental tariff reform

Nature and purpose of the intervention

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Targeted outcomes

Reduced input costs for downstream value-adding manufacturers, leading to improved competitiveness through further downstream value-addition and increased manufacturing sector employment

Key milestones

2016/17 – 2017/18 ongoing: Scope for industries to apply to ITAC for selective creation of rebates for imports which have a negative impact as they erode the country’s manufacturing capacity and revenue. The South African Revenue Services is actively involved in updating the existing legislative framework with the dual purpose of facilitating trade and combating customs fraud and illegal imports.

To date gains have been secured through two important new pieces of legislation that were gazetted in 2014 (Customs Duty Act and Customs Control Act).

These allow for much harsher penalties for customs offenders, through measures such as higher fines; naming-and-shaming of offenders; holding individuals (natural persons and not simply juristic persons) responsible for fraud; and levying new forms of penalties on offenders. They also allow for:

• Recolling the import duties of repeat offenders;
• Stemming the flow of illegally imported goods into the local market;
• Creating additional customs capacity so as to achieve higher rates of inspection.

These gains provide considerable leverage for strategic interventions in customs-related challenges.

Nature and purpose of the intervention

Ongoing interventions in customs fraud-related issues, illegal imports and sub-standard products, including strengthened enforcement of the legislative framework.

Targeted outcomes

Stronger integrated and co-ordinated programmes in the clampdown on customs fraud, illegal imports and sub-standard products; such programmes to combine border enforcement and post-border compliance with enforcement extended to the points of distribution and sale.

Key milestones


National Measurement Standards of all countries participating in the CIPM Mutual Recognition Arrangement.
4. Innovation and Technology

Leveraging science, technology and innovation for industrial growth and development

Background and context

Science, Technology and Innovation (STI) are recognised as key drivers of long-term economic growth, which today is increasingly led by knowledge production and dissemination of knowledge (i.e. knowledge utilisation for the enrichment of all fields of human endeavour). STI becomes a major source of competitive advantage, wealth creation and improvements in living standards. Countries that are successful in disseminating and utilising by actors and stakeholders in a national innovation system (SIS) have the capacity to absorb and quickly adopt to the new knowledge and capabilities. Governments are therefore increasingly pushing innovation towards the top of the policy agenda, recognising its potential to promote economic growth and address social and environmental challenges.1

In South Africa, the centrality of STI to national development has been firmly highlighted in the National Development Plan (NDP Vision 2030). The NDP notes that the developments in STI are fundamentally altering the way people live, connect, learn, work and interact. They are having profound effects on economic growth and development (NEDLAC, 2012). A coherent STI framework can become a deep-level driver of transformations in the country’s transformation to a knowledge economy, as indicated in the NDP, White Paper and other policy documents.2

The growing focus on STI in South Africa can, in part, be attributed to the following factors:

- Substantial increases in global science, engineering and technology (SET) efforts, leading to enhanced capability and knowledge potential.
- Increasing participation of developing countries in global SET activities.
- Ever-increasing complexity and technological capability embedded in components/products, leading to an associated reduction in the lifespan of these products.
- Significantly higher value being attached to higher manufacturing goods, indicative of changing global exports and markets;
- The fact that technology has a time-bound value, implying that continuous innovation is required, irrespective of the type of industrial sector.

This will be achieved through analytical studies of the available data on knowledge production (e.g. the National R&D Survey), knowledge utilisation (i.e. South African innovation surveys), industrial activity, economic data, and studies on linkages (e.g. case studies on linkages between South African and the rest of the African continent). This will be coordinated through the continued implementation of the Emerging Industries Action Plan (EIAP), which is a mechanism to help create an enabling environment for the maturation of technology intensive industries which have the potential to create new industries.

1 http://www.oecd.org/site/innovationstrategy/
2 http://www.who.int/healthinfo/global_burden_disease/estimates/en/
4. Science and Technology Innovation (STI) and economic growth:

SA policy context and coordination

South Africa’s STI policy package4 provides a sound basis for the further improvement and up-scaling of the country’s industrial development interventions as spelled out in the National Industrial Policy Framework (NIPF), and as driven by the Industrial Policy Action Plan (IPAP).

The IPAP is in support of economic and industrial development, will be structured as follows over the next five years:

- New industrial development and the diversification of the economy.
- Competitiveness, including specific focus on small and medium enterprises (SMEs) and inclusive social development.
- Deepening bilateral engagement on research, development and innovation (RDI), between South Africa and the rest of the African continent.
- Innovation and technology transfers in leading-edge fields:

   - Each STI action plan will comprise a request based via surveys, such as the National Survey of Research and Experimental Development (National Innovation Survey) and the South African Innovation Survey, in line with established practices from the OECD.
   - It is becoming increasingly important to improve the level of analysis and the quality of links between the above-mentioned surveys with trends in innovation, SME life cycles and interaction between industry, government, academia and society.

This will be coordinated through the continued implementation of the Emerging Industries Action Plan (EIAP), which is a mechanism to help create an enabling environment for the maturation of technology intensive industries which have the potential to create new industries.
The enabling environment will establish partnerships across government and with local industrial partners, in order to increase market access (local and foreign), and to improve funding certainty through leveraging commitments from development finance institutions such as the Technology Innovation Agency (TIA) and the Industrial Development Corporation (IDC).

d) Continued harmonisation of innovation support initiatives. The environmental scan of RD&I support initiatives will be continued, with an expanded focus to include instruments that exist in the private sector, in order to maintain a comprehensive understanding of the offerings already in existence, as well as the possible mechanisms required to create the necessary linkages between them.

Further enhancements will be developed and proposed to address areas where innovation support gaps and/or needs are identified. Particular emphasis will be placed on maximising the DST’s technological support instruments aimed at helping SMEs to increase their participation in the local economy - especially local production - by releasing the STI support instruments for innovation, entrepreneurial and SMEs. The web-based platform for innovation instruments will also be expanded, to serve as an interactive vehicle to foster continuous engagement between the various actors within the technology innovation and commercialisation landscape, and to act as a channel through which government can communicate with stakeholders.

d) Continuation of the development of a technology commercialisation strategy. In close collaboration with the dti, ongoing initiatives to develop a National Technology Commercialisation Strategy will be accelerated, with a view to producing a policy framework that facilitates and improves the translation of research outputs into commercially viable products and services.

The reminder of this section contextualises South Africa’s STI and economic development objectives (see sub-section 2 below), and outlines the economic rationale for GDP in order to support growth and development. To achieve this, three successive phases are being used to improve funding certainty through leveraging commitments from development finance institutions such as the Technology Innovation Agency (TIA) and the Industrial Development Corporation (IDC).

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In order to increase R&D spend, the Medium Term Strategic Framework (2014-2019) includes a policy target that the Gross Expenditure on R&D (GERD) be increased to 1.5% of GDP in order to support growth and development. To achieve this, three successive phases and milestones are being identified under which the contribution of R&D is expected to grow in importance over time. These phased scenarios and milestones are being used to inform the review and align current strategies.


2 SA STI Policy context

R&D, knowledge production - science policy

The DST is funding R&D through various approaches including, for example, parliamentary grants to the Science Councils (SCs) (such as the CSIR and HSRC), which are aimed at broad R&D, and specific R&D projects and R&D networks, such as the Advanced Metals Initiative (AMI), which has R&D networks in light, precious, ferrous and nuclear metals.

In an effort to build the science system, part of DST funding is also used to provide postgraduate bursaries to build the capacity to perform high quality research; to replace and upgrade scientific infrastructure at laboratory, national and international level; and to ensure that pilot plants are available to help mature technology development. The bench-scale pilot plant scaling up the CSIR’s technology for the production of titanium metal powder is an example of project-specific or high infrastructure equipment.

In the South African context, while it is recognised that innovation does not stem solely from formalised R&D, the national knowledge generation and utilisation effort is broadly assessed in terms of national and international investments in R&D. In this regard, information from the latest National R&D survey1 indicates that government investment in R&D is 18% larger (at R10.832 billion) than business’s investment at R9.152 billion. Business, does, however, perform R&D to the amount of R10.571 billion – through this remains lower (by 7.5%) than the combined spend of Higher Education Institutions (HEIs) and SCs, which stands at R11.559 billion.

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FUNDING SOURCES FOR R&D IN SA

Variation of R&D Funding sources in South Africa (HSRC database)

Technology development - technology policy

Technology policy is indirectly pursued through specific DST portfolios that are aimed at the maturing of new technologies. The progress of technology development is measured by Technology Readiness Levels (TRLs), a system adopted by NASA to reflect the growth and maturity of technology. TRLs, (defined in the schematic below), have been accepted by DST as an instrument to help guide DST investment and quantify the desired outcomes of a project. The TRL approach is also used by TIA, which predominantly invests in technology maturation from TRL 8 to TRL 7.
Technology requires time to mature, and to develop technology from TRL 4 to 7 might take 5 to 8 years, depending on the domain and complexity of the technology.

Key action programmes

1. Improving linkages between knowledge production, utilisation and innovation and industrial growth

The effective improvement and up-scaling of the country’s industrial development objectives – i.e. towards diversifying the economy through movement towards a knowledge, economy and into non-traditional tradable goods and services – requires effective dovetailing of South Africa’s STI, economic and industrial policy objectives. Efforts directed to address this requirement are demonstrated in the Key Action Programmes identified below, through enhanced collaborative efforts between the DST and the dti. The existing instruments and support mechanisms in South Africa’s STI seek to maximise opportunities for innovation, derived from market and business needs. The development and leveraging of STI is ideally achieved through partnerships between government, academia (including science councils) and industry (large, medium, and SMEs).

Summarising:

- The DST is responsible for STI policy aimed at enhancing knowledge generation capacity; ramping up the country’s innovation capacity; developing appropriate science, technology, innovation and human capital to meet the needs of society; building world-class STI infrastructure; and positioning South Africa as a strategic destination.

- The dti is responsible for industrial policy development (including ensuring that local firms have access to knowledge generation etc.) and for enterprise development.

Harmonisation and coordination of DST, dti and other government departments’ incentives, initiatives and instruments is critical to unlocking maximum value from the existing instruments and support mechanisms in South Africa’s NSI. This will be achieved through enhanced coordination of the design and implementation of various developmental interventions.

These are described in greater detail below.

Only [6%] of firms stated that R&D (resulting from universities, universities of technology and science councils) is their source of innovation. Although this value is relatively low, it is in line with international norms. Typical innovation resulting from R&D is more radical (rather than incremental) in nature and often leads to disruptive changes.

South Africa’s STI policy package, and RD&I support interventions, have to date been developed in a manner that seeks to address some of these challenges by not only incurring R&D, but also through creating innovation support structures that aim to enable a greater translation of innovative ideas into prototypes for further commercial development.

In this regard the DST has established the Technology Innovation Agency (TIA), tasked with the primary responsibility of helping to mature technologies with industrial potential, between TRL 4 to 7. In addition, the National Intellectual Property Management Office (NIPMO) is responsible for supporting the protection of intellectual property (IP) resulting from public and private sector R&D. The (GST)’s Co-investment Framework, the proposed national Technology Commercialisation Strategy and the Emerging Industries Action Plan (both detailed below) are further instruments to help mature and commercialise local technology and IP.

3. SA STI, Economic and Industrial development context: coordination through streamlining and harmonisation

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These are described in greater detail below.

Key action programmes

1. Improving linkages between knowledge production, utilisation and innovation and industrial growth

The DST is responsible for the execution of a set of science, technology and innovation (STI) related surveys / assessments which are performed frequently, from annually to every three years. The purpose of these measurements is to quantify the status of the country’s specific focus areas.

It is the stated intention of government to increase the level of R&D, upgrade human capacity and skills, enhance knowledge production (patents, publications, etc.) and knowledge utilisation (e.g. technology demonstrations, new innovations, etc.).

A comprehensive study and analysis will be undertaken to map, analyse and explore the linkages between investments in R&D, technology, innovation and industrial growth.

Targeted outcome

Improved linkages that help to maximise overall R&D investment and ensure that it contributes as strongly as possible to economic growth.

Key milestones

2015/14 Q2: Finalisation of the Terms of Reference for the study and identification of the most relevant data sources.

2015/14 Q4: Completion of Phase 1 of the study, and policy recommendations for FY 2016/17 RD&I led industry development programmes.

2016/17 Q2: Completion of Phase 2 of the study and recommendations for enhancements to science, technology and innovation policy in context of South Africa’s industrial policy.

Lead departments / agencies: DST, dti, NIPMO, TIA, IAC, Offices of Technology Transfer, SCs, universities, and private sector organisations as relevant.

Economic rationale

Investment in STI has a positive relationship with increased competitiveness and economic growth. South Africa has a stated intent to increase the level of R&D, upgrade human capacity and skills, enhance knowledge production (patents, publications, etc.) and knowledge utilisation (e.g. technology demonstrations, new innovations, etc.).

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Lead departments / agencies: DST, dti, NIPMO, TIA, IAC, Offices of Technology Transfer, SCs, universities, and private sector organisations as relevant.
2. Large R&D programmes in knowledge-intensive areas

South Africa has a demonstrated capacity to generate large innovations with disruptive potential – i.e. innovations that help create new technologies, markets and value networks – and to eventually displace existing technologies, markets and value networks over a period of time.12

The DST is currently investing in number of potential high impact programmes that are cross-cutting (requiring close integration and support from other departments) and which have the potential to revitalise existing or establish new industries, contribute substantially to longer-term, sustainable competitiveness and new market penetration. Examples of ‘R&D-led industry’ development programmes are:

- Titanium metal powder manufacturing development;
- Fuel cell development;
- Additive manufacturing.

Such programmes are knowledge-intensive and based on proprietary know-how, with corresponding markets often not yet established. This implies that, in view of the technical and market risks, development funding is difficult to secure. Besides the financial aspects, the speed of technical and market development is deemed key to success. In order to help mitigate the above-mentioned risks, and to ensure interdepartmental and, where appropriate, industry, support and buy-in, the Emerging Industries Action Plan (EIAP) was devised and incorporated into government’s Medium Term Strategic Framework (MTSF).13

3. Technology Commercialisation Strategy

Technology commercialisation is understood as the process, or processes, of introducing a new product or production method into the market. This can include new-to-the-world, as well as new-to-the-market (i.e. something new in a given context and not in absolute terms14), innovations that have demonstrably captured economic and/or social value.

The DST is currently finalising the implementation modalities for its Commercialisation Framework, which is intended to guide its commercialisation activities. It is envisaged that the lessons learnt from the implementation and testing of the DST’s Commercialisation Framework will in turn support work towards the development of a National Technology Commercialisation Strategy, in cooperation with the dti.

The Technology Commercialisation Strategy will seek to accelerate the journey between development R&D and commercialisation, so as to assist start-ups and other players in the commercialisation space to overcome the ‘valley of death’ (i.e. the gap between R&D and the creation of successful products, processes and services).

The strategy will provide guidance with respect to investment strategies and will deal with the inherent complexity of innovation exploitation. The Strategy is particularly crucial given the share of research carried out in public institutions and funded by government.

Increasing awareness of commercialisation is important. So, too, is the involvement in research of those who will use, and, where appropriate, industry, support and buy-in. The Emerging Industries Action Plan (EIAP) was devised and incorporated into government’s Medium Term Strategic Framework (MTSF).

Economic rationale

The establishment of an EIAP is aimed at providing a formal platform that will a) reflect and elevate government-led technological programmes supporting new industrial development, and b) assist in the formal inter-departmental coordination and positioning of the respective programmes.

Target outcomes:

- Increased market access (both local and foreign) and improved investment certainty throughout the project life-cycle. (To be achieved by securing firm commitments from developmental finance institutions such as the Fand IDC);
- A clear set of value propositions to potential local and foreign funding and industry partners.

Key milestones:

- 2015/16 Q1: Secure stakeholder support for the EIAP concept. Terms of Reference and proposal implementation modalities.
- 2015/16 Q2: Secure stakeholder support and commitment for the evaluation of the first EIAP flagship projects.
- 2015/16 Q4: First techno-economic evaluation completed and EIAP project(s) selected and finalised. A summary report will capture the process and learning.

Lead departments / agencies: DST.

Supporting departments / agencies: the dti, NT, EDD, DoE, DoH, DNR, TIA, IDC, provincial government departments, science council, universities and private sector organisations as relevant.

Economic-Rationale

To bridge the gaps between the pre-production, prototyping and commercialisation stages of the innovation process.

Targeted outcome

An optimised framework for successfully commercialising new technologies.

Key milestones:

- 2015/16 Q2: Hold workshops with relevant stakeholders and consolidate inputs.
- 2015/16 Q4: Seek approval for the Technology Commercialisation Strategy.

Co-leading departments/agencies: the dti and the DST.

Supporting departments/agencies: NT, EDD, IDC, TIA, NTPM, University, Science Councils, IDEs, private sector organisations.

12 The term is deemed to have been originally coined by Prof. Clayton Christensen, Professor of Business Administration at the Harvard Business School (HBS).


14 From the perspective of economic growth, competitiveness and local value addition.
4. Harmonisation of innovation support programmes

South Africa has strong science and technology capabilities and well-developed STI institutional frameworks. Concern has, however, been expressed at the inadequate levels of coherence and coordination in prioritisation and agenda-setting for science and technology innovation by, and between, government, business, academia, and civil society.22 Strengthening the system is required to address the need for improved coordination and coherence in the use of R&D in promoting innovation for the purposes of social and economic development.

Numerous innovation-support initiatives are currently being implemented by government departments and their agencies. Potential overlap, duplication and efforts exist. Access to, and utilisation of, support mechanisms is not optimal; information on the various innovation support programmes is not readily available for stakeholders. In addition, it is likely there are innovation-support gaps and/or needs that are not currently being addressed.

Preliminary assessments of some of the existing innovation financing and support programmes of government reveal that there is indeed collective, at times, overlapping coordination and coherence in the use of R&D in promoting innovation for the purposes of social and economic development. Potential overlap, duplication and lack of proper synchronisation of funding and other support mechanisms geared towards the technology deployment and full commercialisation stages of the innovation chain.

5. Special Economic Zones and Regional Industrial Clusters

Special Economic Zones (SEZs) are an important tool to support the country’s long-term industrialisation objectives and the development of new industrial capabilities. The development of SEZs is primarily aimed at i) increasing the flow of domestic and foreign direct investment; ii) developing, strengthening and deepening key domestic value chain linkages; and iii) increasing the volume and diversity of exports. SEZs are also expected to play an increasingly important role in the development of associated Regional Industrial Clusters, thus bringing about a much needed regional diversification of the country’s industrial base.

Over the past few years, this programme was largely focused on the development of a regulatory framework for effective design, planning, development and management of zones. This included the introduction of a package of incentives for qualifying investments located within designated zones and the undertaking of feasibility studies to determine the long-term economic viability of proposed new zones.

Going forward, more effort will now go into the development and promotion of viable Special Economic Zones and Regional Industrial Clusters within and around these zones will therefore be prioritised.

Associated with Special Economic Zones is the development of Regional Industrial Clusters. These are seen as a critical component as an emerging base for the following opportunities:

- Maximisation of returns on natural endowments within specific geographical areas.
- Enhanced intermediate levels of industrialisation with crucial benefits of spill-over to surrounding regions - including the lagging regions.
- Facilitation of capacity and institutional development for the management of clusters to enhance business productivity.

Constraints

- Undeveloped infrastructure, especially outside the main industrial hubs, including the following:
  - Insufficient energy supply, water shortages and poor road and rail links.
- Absent or extremely weak education and training infrastructure.
- Port inefficiencies, in particular cargo terminal capacity constraints.
- Unreliability of some regions to domestic and foreign professionals.
- Macro-economic instability.
- Access to finance.
- Scarcity of existing businesses, especially in low-populated areas.

Key opportunities

Summarising the discussion above: the SEZs and Regional Industrial Clusters can be seen as an emerging gap, therefore:

- Development and strengthening of key value chains and their integration in national and international value chains.
- Enhanced competitiveness through harmonisation of collective efficiencies.
- Creation of economic opportunities for small and medium enterprises through supplier development programmes.
- Regional diversification of the economy.
- Technology and skills transfer, to be achieved by linking transnational and large domestic firms with smaller ones.
- Creation of decent and sustainable jobs.
- Attraction of foreign direct investment.
- Maximisation of returns on natural endowments within specific geographical areas.
- Enhanced intermediate levels of industrialisation with crucial benefits of spill-over to surrounding regions - including the lagging regions.
- Facilitation of capacity and institutional development for the management of clusters to enhance business productivity.

Economically rational

Ongoing efforts are under way to identify further gaps (and opportunities for enhanced complementarities) amongst the various institutions and between the available support instruments; and these will reform the efforts of both the dti and the DST to harmonise and coordinate the interventions necessary for successful outcomes.

Targeted outcome

Harmonised support mechanisms that facilitate the development of synergies between existing and future innovation-support programmes across departments and entities, with a view to delivering increased, targeted better impacts on the growth of the economy.

Key milestones

2015/16 Q1: Finalise TDR for review of private sector innovation support programmes and support stakeholders.

2015/16 Q2: Finalise a framework of public sector innovation support programmes; establish and develop the requirements for the Innovation Bridge Portal (a ‘Portal of Portals’) to serve as a platform to encourage greater interaction between industry, academia and government in the support of commercialisation of public-funded R&D.

2015/16 Q3: Identify potential for coordination across innovation-support programmes and implement steps to facilitate harmonisation in the system.

2015/16 Q4: Develop a proposal for additional innovation instruments to meet system and stakeholder needs.

2015/16 Q1: Launch & Portal.

Co-leading department/agencies: DST and the dti.

Supporting department/agencies: EDD, NT, IDC, TIA, NRF, NIPMO.

Severe resource constraints, in particular cargo terminal capacity constraints, can be anticipated.

22 Academia in this context is extended to include other research technology organisations, such as Science Councils.


Key Action Programmes

1. Special Economic Zones Strategy

Nature and Purpose of the intervention

Setting out priorities and outlining key approaches to guide the design, planning, development and management of Special Economic Zones in order to accelerate the attraction of foreign and domestic direct investments into the targeted regions.

Targeted outcome

Implementing a programme to communicate with domestic and foreign investors regarding available investment opportunities and incentives in Special Economic Zones.

Key milestones

- 2015/16 Q2: Stakeholder consultation and consolidation of inputs.
- 2015/16 Q4: Implementation.

2. Special Economic Zones Guidelines

Nature and Purpose of the intervention

Provision of planning guidance to all critical stakeholders with respect to the identification, preparation of project proposals, development of clusters and building of industrial capabilities.

Targeted outcomes

Clear, simple and precise SEZ Planning Guidelines and enhanced certainty for investors; effective planning and management of zones.

Key milestones

- 2015/16 Q1: SEZ Planning Guidelines developed and finalised.

3. Marketing Plan for Special Economic Zones

Nature and Purpose of the intervention

Implementation of a programme to communicate with domestic and foreign investors regarding available investment opportunities and incentives in Special Economic Zones.

Targeted outcomes

Packaged investment opportunities communicated to investors, with provision of support to those willing to take advantage of these opportunities; increased investment in Special Economic Zones.

Key milestones

- 2015/16 Q1: Packaging of investment opportunities across all designated zones.
- 2015/16 Q2: Marketing Plan and promotion materials finalised.
- 2015/16 Q1-Q4: Secure 30 new Investors into designated SEZs.

4. Implementation of the Cluster Development Framework

Nature and purpose of the intervention

The framework seeks to conceptually crystallise the economic developmental interventions and the overall approach to the promotion of industrialisation in underdeveloped regions in South Africa. It has been developed with the objectives of supporting joint action between the private and public sector and building collaborative models amongst private firms – particularly to the extent that these collaborative models support industrial upgrading and the expansion of economic activity.

Targeted outcome

A National Cluster Development Policy Tool for supporting industrialisation in underdeveloped regions and enhancing equitable distribution in emerging economic regions.

Key milestones


Lead department: the dti.

Supporting departments/Agencies: Provincial Economic Departments and Agencies, DStI, IDC.

5. Roll-out of the Cluster Development Programme Incentive Scheme

Nature and Purpose of the intervention

To enhance the competitiveness of local companies, in order to improve the manufacturing sector’s share in domestic market aggregate demand. This will be done by further supporting established cluster management organisations and by providing shared infrastructure and implementing specific business development measures to support the consolidation of industrial clusters in lagging regions.

Targeted outcomes

Enhanced firm-level production efficiencies, to be achieved by leveraging shared manufacturing infrastructure and joint marketing efforts, whilst reducing the cost of doing business for single enterprises.

Key milestones

- 2015/16 Q1-Q2: Launch of CDP Incentive Scheme. (1).
- 2015/16 Q3 - Q4: Roll-out of the Incentive Scheme. (2).

(1) Lead department: the dti.

Supporting departments/Agencies: DST, IDC, NEF, SEFA.

(2) Lead department: the dti, University of Johannesburg.

Supporting departments/Agencies: CENLED, IDC, FETs.
6. Regional integration

Regional integration remains a critical mechanism for enhancing economic growth and fostering industrial development across the continent. Africa’s economic rise is still predominantly driven by external markets, but regional markets are now also beginning to boost intra-continental trade. A large number of African countries continue to record high growth rates, some averaging 5% and upward, while the value of intra-African trade has increased over the last decade to reach US $130 billion. This is attributed to the continent’s high population density, domestic production, robust growth in services and a rise in tourism and production of mineral exports.

Notwithstanding these developments, the continent remains largely confined to the lower end of global supply chains as a result of high reliance on raw material production and unprocessed exports, with too little value-added and few forward and backward linkages to other economic sectors - further aggravated by underdeveloped infrastructure. Consequently, levels of productivity and competitiveness generally remain low, exports (especially value-added) a mere fraction of production and mineral exports.

In practical terms, this means actively stimulating industrial development through cooperation and integration agenda. Over the past year, South Africa has worked with fellow member states in the SADC and Tripartite Free Trade Area negotiations to develop a practical roadmap towards building supply-side capacity and develop stronger regional value chains to underpin intra-regional growth and diversification of trade.

Work is currently under way to concrete areas of collaboration at both bilateral and multilateral levels. South Africa has already initiated discussions that have led to the identification of a significant number of areas for cooperation, particularly in manufacturing, agro-processing, pharmaceuticals and chemical sectors and in downstream minerals processing and beneficiation.

Key Action Programmes

1. Work programme of the Regional Economic Communities

Nature and purpose of the intervention

Implementation of the work programme with Regional Economic Communities is agreed by SADC member states.

Economic Rationale

In pursuit of deeper regional integration South Africa must continue to uppace its work with fellow African states to implement agreed priorities, including the establishment of joint infrastructure development projects, development of regional value chains and the provision of technical assistance for policy and institutional development.

Targeted outcome

Increased economic integration and co-operation between the regional economic communities.

Key milestones

2015 – 2018: Work with fellow member states to implement the approved SADC Industrial Development Implementation Matrix to build on the Regional Industrial Development Strategy, prioritising agro-processing, mineral beneficiation and pharmaceuticals as initial sectors of focus.

2015 – 2018: Work with member states to concretise areas of collaboration on identified projects that support development of regional value chains in the region.

2015 – 2018: Work with fellow member states to concretise areas of collaboration to promote productive capacity in the tripartite region.

Lead and Supporting Departments: the dti, EDD, DIRCO.

2. Cross-border infrastructure and sector development

Nature and purpose of the intervention

This intervention seeks to promote a cross-border infrastructure and sector development project to complement the Free Trade Area (FTA) discussions to create a market of more than 600 million people in South, Central and East Africa.

Economic Rationale

A better-integrated cross-border infrastructure that facilitates investment, trade and development of regional value chains.

Key milestones


2015 – 2018: Identify viable regional value chains and relevant levers to promote their development.

3. Technical Assistance

Nature of the intervention

This intervention seeks to promote sharing of best practice and capacity building.

Economic Rationale

South Africa has strong technical capacities in a number of levels and through a number of organisations. These can be shared with the rest of the region. A number of DFIs in South Africa has strong technical capacity in a number of areas. The intervention seeks to share these capacities.

Key milestones

2015 - 2018: Continue to cooperate with countries across the continent on capacity building programmes.

Lead and supporting departments/agencies: the dti, EDD, DITSA.
4. Co-operation on Standards, Quality Assurance, Metrology and Accreditation (Technical Infrastructure)

Nature and Purpose of the intervention

South Africa will work with countries in the region to strengthen cooperation and better co-ordination of technical infrastructure activities, including standards, metrology and accreditation and conformity assessment services, mindful of the fact that the development of such capacity has a long lead time.

The capacity to comply with international standards, norms and technical regulations underpins the potential for economic and industrial growth. The strengthening of technical infrastructure capacity in African countries is a precondition of industrialisation efforts and regional integration.

The dumping of cheap, sub-standard manufactured goods on African markets has sometimes led to the collapse of local industries and acted as a major barrier to industrial development. Tightened standards and conformity assessment are, therefore, of great importance in preventing the influx of sub-standard and injurious products into African markets.

Targeted outcome

Improved quality and enhanced potential access of African products to export markets, as a key support mechanism for regional integration.

Key milestones

2015/16 Q4: Two pre-peer evaluations to be conducted on ENAO (Ethiopia) and MAURITAS (joint AFRAC & SADC); peer evaluations of KENAS and SADCAS to be conducted (joint AFRAC & SADC); peer evaluation for prioritised AFRAC scoping training needs where there are skills lacking; AFRAC to apply to ILAC and IAF for peer evaluators; updated AFRAC Strategy Plan to be developed.

2015/16 Q4: SABS to participate in the review processes for harmonisation at the African Organisation for Standardisation (ARSO).

2016/17 Q4: Peer evaluations to be conducted in 2016/17 on ENAO (Ethiopia) and MAURITAS (joint AFRAC & SADC).

2016/17 Q4: SABS to put forward proposals for harmonisation of South African Indigenous Knowledge System standards in ARSO and SADC.

2017/18 Q4: AFRAC ILAC and IAF peer evaluation.

2017/18 Q4: Develop comparison programme within AFRIMETS to compare National Measurement Standards of all countries participating in the CIPM Mutual Recognition Arrangement.

2017/18 Q4: Identify relevant ARSO standards for harmonisation by SABS.

Lead departments/agencies: the dti, NMISA SABS, SANAS.

2017/18 Q4: Identify relevant ARSO standards for harmonisation by SABS.
SECTORAL INTERVENTIONS 1
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Clothing, Textiles, Leather & Footwear

Introduction

In the early 2000s, the Clothing, Textiles, Leather and Footwear (CT LF) sectors were under massive pressure. On the one hand, South Africa's opening of local markets to global competition - in line with World Trade Organisation (WTO) rules - opened the door to strong global competition from legitimate manufacturers. On the other hand, South African CTLF sectors experienced a flood of cheap and illegal imports - particularly from the Far East - which saw many manufacturing companies forced to close down their operations and/or shed large numbers of jobs. However, studies carried out during this period also highlighted the hard fact that our manufacturing entities were not globally competitive, even against legitimate competition.

At this point, government took the decision to intervene in order to save the CTLF sectors. After extensive engagements with all stakeholders, several very important interventions were implemented which, over the past few years, have begun to bear fruit.

The first intervention was the Clothing and Textiles Competitiveness Programme (CTCP) incentive, which came on stream in 2009 and which has had a significant positive impact despite ongoing challenges related to the weak state of the global economy. The programme is subdivided into the Production Incentive Programme (PIP) and the Competitiveness Improvement Programme (CIP).

Government has invested close to R 3.5 billion in the CTCP to date; of which nearly R 3 billion has already been fully transferred to the industry. The main impact of the programmes has been the stabilisation of the sectors, the saving of over 67,000 jobs and the creation of a significant number of new, decent, sustainable employment opportunities.

Through the PIP, companies have invested extensively in new technology and skills development, bringing renewed confidence back into the industry. The CIP, on the other hand, facilitated the establishment of both horizontal and vertical clusters - including both national and sub-national clusters - which now cover the entirety of the textiles and footwear value-chains, from fibre and hides to retailers' outlets.

The second major intervention – which kicked in on 16th July 2012, was the designation of CTLF sectors for 100% local content in state procurement tenders under the revised Preferential Public Procurement Framework Act (PPPFA). This has started showing good impact on localisation through both transversal and non-transversal tenders. Transversal public procurements from CTLF sectors through National Treasury have increased by 82% from R 264 million in 2013/14 to R 479,6 million for 2015/16.


<table>
<thead>
<tr>
<th>Variable</th>
<th>% of Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTLF GDP</td>
<td>8.36%</td>
</tr>
<tr>
<td>CTLF Employment</td>
<td>8.20%</td>
</tr>
<tr>
<td>CTLF Output</td>
<td>5.78%</td>
</tr>
<tr>
<td>CTLF Wages</td>
<td>5.75%</td>
</tr>
</tbody>
</table>

Source: Quantec
**Key Action Programmes**

1. **Clothing, Textiles, Footwear and Leather Competitiveness Improvement Programme (CTCP) Monitoring and Evaluation**

   **Nature and Purpose of the Intervention**
   The CTCP will be reviewed based on existing M&E mechanisms of the GIP and RFP. The review will evaluate data from the CTCP with a view to enhancing job creation, growth, stability and global competitiveness across the whole CTLF sector.

   **Targeted outcomes**
   Improved competitiveness, growth and job creation in the sector.

   **Key milestone**
   2015/16 Q1-Q4: Initial review of the impact of the CTCP, based (as noted above) on the existing M&E mechanisms of the GIP and RFP.

   **Lead departments/agencies:** the dti.
   **Supporting departments/agencies:** IDC.
   **Programme (CTCP) Monitoring and Evaluation**

   **Source:** Quantec database

   **Figure 1: Employment: Formal & informal In CTLF from 2002 to 2013**

   The graph above clearly shows the downward trend in employment numbers from 2002. However, it also illustrates the stabilisation achieved by 2012-13.

   **Targeted outcomes**
   2013 was a slight increase in sectoral employment: from 148,228 people in 2012 to 150,950 in 2013 – i.e. 2,721 new jobs created.

   **Supported programmes**
   • Continuing the 3-year pilot programme for the commercialisation of flax fibre content, funded through the Employment Creation Fund.
   • Beneficiation of mohair fibre through the Mokhari Cluster.
   • Beneficiation of crocodile and ostrich leather through the Sub-National Exotic Leather Cluster (SNUC) established at the University of Pretoria.
   • Beneficiation of cotton lint through the Southern African Sustainable Textiles and Apparel Cluster (SASTAC).
   • Finalisation of the Hides Export Policy.

   **Key milestone**
   2016/17: Ongoing and targeted campaigns against under-invoicing and other illegal activities in the sector.

   **Lead departments/agencies:** National Treasury, SASTAC and the dti.
   **Supporting departments/agencies:** DTAC.

   **Beneficiation of Local Raw Materials**

   **Nature and Purpose of the Intervention**
   • Continuation of the 3-year pilot programme for the commercialisation of flax fibre content, funded through the Employment Creation Fund.
   • Beneficiation of mohair fibre through the Mokhari Cluster.
   • Beneficiation of crocodile and ostrich leather through the Sub-National Exotic Leather Cluster (SNUC) established at the University of Pretoria.
   • Beneficiation of cotton lint through the Southern African Sustainable Textiles and Apparel Cluster (SASTAC).
   • Finalisation of the Hides Export Policy.

   **Targeted outcomes**
   • 2015/16: Ongoing enhancement of local raw material beneficiation through rolled-out beneficiation programmes.
   • 2016/17: Ongoing and targeted campaigns against under-invoicing and other illegal activities in the sector.

   **Supporting departments/agencies:** IDC, FP&M SETA, TEIs.

   **Figure 2: Growth in CTLF annual real output from 1970 to 2013**

   Source: Quantec database

   **Figure 2: Growth in CTLF annual real output from 1970 to 2013**

   Real output grew by 13.93% from R 24.4 billion in 2010 to R 27.8 billion in 2013. The stability in employment and increase in the real output are clearly attributable to the positive impact of the CTCP, in conjunction with the dti’s designation of CTLF with a local content of 100%.

   **Key milestones**
   2015/16 Q1-Q4: Initial review of the impact of the CTCP, based (as noted above) on the existing M&E mechanisms of the GIP and RFP.

   **Lead departments/agencies:** the dti.
   **Supporting departments/agencies:** IDC.

   **Programme (CTCP) Monitoring and Evaluation**

   **Targeted outcomes**
   • 2015/16: Ongoing and targeted campaigns against under-invoicing and other illegal activities in the sector.

   **Key milestones**
   2015/16 Q1-Q4: Ongoing enhancement of local raw material beneficiation through rolled-out beneficiation programmes.

   **Lead departments/agencies:** the dti, National Treasury, TCCoE-CSIR, ELC-UP.
   **Supporting departments/agencies:** IDC, FP&M SETA, TDLs.
Automotives
Light Motor Vehicles, Medium and Heavy Commercial Vehicles, & Components

Introduction
The automotive manufacturing value chain provides significant economic growth and development opportunities hence various countries in the African continent are now developing policies to support a degree of automotive production. It is in fact, a global trend that automotive manufacturing is increasingly being shifted into developing economies.

The demise of the automotive manufacturing industry in Australia is an example of how quickly production can be shifted to other locations where an enabling policy environment exists. The closure of automotive manufacturing plants in Australia by 2017 will result in the loss of approximately 50,000 direct jobs and a few thousand more indirect jobs. It should be noted that Australia is at about 4% unemployment as compared to at least 25% unemployment in South Africa, therefore, every job opportunity counts.

There is a challenge of transforming the industry in line with the country’s economic development strategy, especially focussing on enterprise development and other equity equivalent initiatives. The recent review of the APDP has confirmed the difficulties faced by the industry in reaching the set objectives of high production volumes and increased local value addition under current and future economic conditions.

It is evident that the Government has to continue to offer support which is of great importance in terms of encouraging the country to compete internationally. There is still a challenge of transforming the industry in line with the country’s economic development strategy, especially focusing on enterprise development and other equity equivalent initiatives.

To establish Centres of Leather and Footwear Entrepreneurship at Further Education and Training Colleges (FETCs) as Public-Private Partnership (PPPs) in collaboration with the Department of Science and Technology (DTI), the National Footwear and Leather Cluster, Vaal University of Technology and University of Pretoria.

Nature and Purpose of the intervention
Light Motor Vehicles, Medium and Heavy Commercial Vehicles, & Components

Nature and Purpose of the intervention

Key opportunities
- Preferential procurement by the State;
- Global collaboration in supplier development;
- Localisation of selected automotive segments.

Key Constraints
- Relatively small domestic market.
- General competitiveness gap with competing locations;
- Cost and reliability of inputs such as energy and raw materials;
- Competitive gap with the South African automotive industry.

The demise of the automotive manufacturing industry in Australia is an example of how quickly production can be shifted to other locations where an enabling policy environment exists. The closure of automotive manufacturing plants in Australia by 2017 will result in the loss of approximately 50,000 direct jobs and a few thousand more indirect jobs. It should be noted that Australia is at about 4% unemployment as compared to at least 25% unemployment in South Africa, therefore every job opportunity counts. It should also be noted that whilst the automotive sector has in the past twenty years grown from an inward looking to a globally integrated industry, some challenges remain. There is still a challenge of transforming the industry in line with the country’s economic development strategy, especially focussing on enterprise development and other equity equivalent initiatives.

The automotive manufacturing industry is still recovering from the effects of the 2008/9 global economic crisis; almost 100,000 people are still employed in vehicle assembly and component production as at end 2014. The Australian example cited above is a clear indication that South Africa has to continue supporting the automotive industry especially that there is oversupply in other regions where global demand can be serviced.

The APDP and its predecessor the MIDP have successfully positioned South Africa as a global participant in automotive production. The wider automotive sector has regularly contributed between 6% and 7% to the country’s GDP in recent years, underpinning employment. Support remains valued at more than R130 billion a year from investments of more than R124 billion since 2009.

Key opportunities
- Preferential procurement by the State;
- Cooperation with emerging automotive production locations in the continent;
- Global collaborations in supplier development;
- Localisation of selected automotive segments.

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Key Constraints
- Relatively small domestic market;
- General competitiveness gap with competing locations;
- Cost and reliability of inputs such as energy and raw materials;
- Competitive gap with the South African automotive industry.
Key Action Programmes

2. Localisation

Nature and purpose of the intervention

This ASCG-driven intervention (involves the identification of products or component groups for localisation as well as the creation of focused Action Plans to give practical impetus to the localisation drive.

Targeted outcomes and impacts

The industry-approved localisation priorities should lead to deepening automotive manufacturing through increasing investment in the value chain, improved local value addition and employment creation.

Key milestones

2015/16 Q1: Identification of localisation opportunities.
2015/16 Q2: Identification of existing and potential blockages to the realisation of the opportunities.

Supporting departments / agencies: NT, EDO, Provincial and Local Government.

Manufacturing (WCM) initiatives with a view to improving and expanding similar interventions across the automotive value chain.

3. Metal Fabrication, Capital & Rail Transport Equipment

Introduction

The metal fabrication, capital and rail transport equipment cluster of sectors includes:
- Ferrous Metals
- Non-Ferrous Metals
- Capital Equipment
- Rail transport equipment

Key Opportunities

- Mining turnkey projects in South Africa, the rest of Africa and South America.
- Opportunities to extend value chains through further downstream manufacturing initiatives, turning the lack of maturity in existing South African beneficiation chains into a strength.
- Taking advantage of the APDF to create additional opportunities for metal-component manufacturing.

Feature count:

- 2013
- R149.7 billion
- 327 (6.2%)
- 55,727 (24.3%)
- R24.5 billion (1.4%)
- R44.5 billion (2.5%)
Weak understanding of - and/or unwillingness to comply with - localisation programmes.

Higher tariffs and non-tariff barriers in potential export markets.

Downward tariff pressures on a number of value-added products, which is resulting in a surge of imports, particularly in low-value and high-volume manufactured goods.

Insufficient dedicated funding support to make the industry more competitive in both domestic and export mega-projects.

Insufficient regulatory requirements and imperfect intergovernmental integration.

**Key Action Programmes**

1. **Response to government target of 75% local content across government procurement: Designation and Localisation**

   **Nature and purpose of the intervention**

   The current administration has committed to achieving 75% local content across public procurement. The strategy aims to:

   - Rebuild manufacturing capability.
   - Strengthen the local production base.
   - Enhance value addition.
   - Promote employment and exports.

   **Key milestones**

   - **2015/16 Q1:** Finalise designation process, including instruction notes for transformers and associated equipment.
   - **2015/16 Q2:** Finalise designation process, including instruction notes for rail signalling equipment.
   - **2015/16 Q4:** Finalise designation process through reviews on the power pylon instructions to include monopoles, line hardware, and steel structures.
   - **2016/17 Q1:** Industry analysis for possible designation of fabricated structural steel fabricated.
   - **2016/17 Q1:** Industry analysis for possible designation of small tubes and pipes fabricated.
   - **2016/17 Q4:** Preliminary report on the localisation of the PRASA rail signalling contract for Gauteng North.
   - **2017/18 Q1:** The dti to review the rail rolling stock components designated under the PPFA and make adjustments to the levels of local content and associated procurement.

   **Lead departments/agencies:** the dti and EDD.

   **Supporting departments / agencies:** NT, DPE, DNA, Eskom, Transnet, PRASA.

2. **Continued competitiveness enhancement programmes deployed at company-level, together with dedicated training**

   - **[Under the National Foundry Technology Network and National Tooling Initiative Programmes]**
   - **Nature and purpose of the intervention**

     The near-terminal decline of the tooling, casting and forging industries over the past 30 years has led to serious knock-on effects for the performance of the manufacturing sector as a whole. This dire situation compelled the dti, the tooling and foundry industries to embark on two major rehabilitation initiatives: the Intensified National Tooling Initiative (NTI) and the National Foundry Technology Network (NFTN). These interventions have culminated in the subordinated development of localised skills development and enterprise development programmes. The NTI and NFTN include multi-year programmes aimed to put the tooling and the foundry industries on a trajectory that will enable them to successfully support the local manufacturing sector and produce tooling, casting, and forgings competitively for global markets – at the same time addressing the age gap and transformation deficits that still exist in these industries.

   - In this IPAP, we will build systematically on the foundations laid and the successes so far achieved in these initiatives.

   - The launch of the first computerised numerically-controlled laboratory as a tooling centre of excellence at NECSA in November 2014;
   - The new Tooling Trade Test piloted by QCTO and NAMB during FY 2014/15; and
   - The NTI Artisan Skills Development Partnership Programme project closeout report.

   **Lead departments/agencies:** the dti.

   **Supporting departments / agencies:** DHET, DST, CSIR, DEA.

   **Targeted outcomes**

   - Reduced import leakage; increased human skills capacity; promotion of investments in key manufacturing processes and activities; growth of employment opportunities.
Agro-processing

Introduction
South Africa’s R40 billion agro-processing sector plays a significant role in terms of job creation and sustainability in the economy. Despite the continued ripple effect of the 2008 economic crisis, food processing continues to be resilient and it is one of the largest manufacturing sectors by employment. It presents key opportunities in the global value chain in the food and freight industries, with an estimate of 207,893 jobs in the 3rd quarter of 2013 – this against a backdrop of job losses in other parts of the sector. Agro-processing is also significant in value-addition terms, as it contributes a significant component of total manufacturing value-added. Both the New Growth Path (NGP) and National Development Plan (NDP) identify agro-processing as a sector with substantial employment - has to cope, however, with the challenge of limited water resources. The agro-processing sector is defined in statistical terms by the food-processing and beverage manufacturing sub-sectors only. The agro-processing sector is defined in statistical terms by the food-processing and beverage manufacturing sub-sectors only.

Nature and purpose of the intervention
Key challenges to the metal fabrication industry remain access to costs of key intermediate inputs, especially on steel flat products and scrap metals. The structural issues in these intermediate sectors continue to be a hindrance to the industry’s competitiveness in both domestic and global markets.

To this end, a number of interventions have been deployed, including proposals by the Inter-Departmental Task Team on the iron-ore and steel value chain, and the price of preferential system on scrap metal by ITAC, but these have not yielded the desired outcomes, pointing towards the need for a deeper policy of interventions to address market failures.

Targeted outcomes
Reduced costs and increased access to raw materials by the foundries, steel mini-mills and non-ferrous metals secondary smelters; thereby increasing both value addition and sector competitiveness.

Key milestones
2015/16 – 2016/17
Development of a comprehensive Steel Industry Position Paper to confirm government’s objectives and interventions in the iron and steel value chain.

2016/17 – 2017/18
Policy positions to improve the current regulations on scrap metal; including submission of the Basic Export Tax Proposal to National Treasury for implementation.

Supporting departments / agencies: EDD, ND, IDC, DPE, ITAC.

Variables

<table>
<thead>
<tr>
<th>Contribution in 2014</th>
<th>2015/16</th>
<th>2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agro-processing (% of GDP in manufacturing)</td>
<td>4.3%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Agro-processing employment (% of Manufacturing)</td>
<td>255,375</td>
<td>260,546</td>
</tr>
<tr>
<td>Trade balance</td>
<td>R14.7bn</td>
<td>R8.8bn</td>
</tr>
</tbody>
</table>

Source: Quantec and StatsSA

Key opportunities
The agriculture and agro-processing value chain is defined by a sizeable labour/capital ratio (L/C of 1:5.54) which makes it an important source of labour-intensive growth. South Africa is a very active participant in the global food chain, offering employment not only in the domestic economy but to a large number of international industries in the cold chain, freight and food industries. In addition, this value chain is central to Government’s rural development and smallholder farmer development objectives.

The agro-processing sector’s economic performance is closely related to the overall rate of growth in the agriculture sector, which in turn is influenced by trade agreements such as horticulture and aquaculture are in the short term likely to experience stagnation in growth rate. The Middle East and BRICS continue to represent important new markets for upper-income consumer products such as horticulture and aquaculture that can create jobs and answer some of the macroeconomic questions such as balance of payments (BOP) generated by the current import/export gap. The processing of agro-processing sector competes successfully within global value chains in the food and freight industries, with an estimate of 207,893 jobs in the 3rd quarter of 2013 – this against a backdrop of job losses in other parts of the sector. Agro-processing is also significant in value-addition terms, as it contributes a significant component of total manufacturing value-added. Both the New Growth Path (NGP) and National Development Plan (NDP) identify agro-processing as a sector with substantial employment - has to cope, however, with the challenge of limited water resources.

South Africa’s agro-processing sector is one of the most competitive in the world, enjoying a preferential market access in the South African market.

Given the diversity of the sub-sectors that make up the agro-processing sector, the constraints are relatively sector-specific. Export-focused producers in the wine and spirits, fresh and canned fruit, indigenous tea, fresh flowers, confectionery, processed food, fruit juice and aquaculture sub-sectors face constraints such as a lack of processed crop and raw material, input costs, market and sanitary standards (SPS). This necessitates more sophisticated export intelligence, better developed-market knowledge, increased volume of sales, and more sophisticated supply chain management. The Middle East and BRICS continue to represent important new markets for upper-income consumer products such as horticulture and aquaculture that can create jobs and answer some of the macroeconomic questions such as balance of payments (BOP) generated by the current import/export gap. The processing of agro-processing sector competes successfully within global value chains in the food and freight industries, with an estimate of 207,893 jobs in the 3rd quarter of 2013 – this against a backdrop of job losses in other parts of the sector. Agro-processing is also significant in value-addition terms, as it contributes a significant component of total manufacturing value-added. Both the New Growth Path (NGP) and National Development Plan (NDP) identify agro-processing as a sector with substantial employment - has to cope, however, with the challenge of limited water resources.

Import competition is particularly severe in the meat, frozen vegetables, wheat, pasta and confectionary sub-sectors. Growth and market access harks hand in hand with minimizing domestic cost pressures resulting from a range of production inputs, including electricity and water, road transport, fertilizer and seed costs. The resulting margin pressure faced by South African farmers, has led to some employment losses, increased labour rates, and under-investment in productivity enhancing measures.

The dti will address these constraints on a sub-sector basis, focusing on developing comprehensive interventions that will include (where applicable) a mix of trade measures, support for local procurement, financial assistance for productivity enhancing measures, export marketing, more visible South African ‘presence’, and dynamic product innovations. In the medium term, the dti hopes to see a significant increase in capital investment in the sector, and to some extent, provides on the domestic market – such as supermarket economies, fruit juices, processed vegetables, confectionery, meat and processed food sub-sectors – currently face heightened competition from imports. Import competition is particularly severe in the meat, frozen vegetables, wheat, pasta and confectionary sub-sectors. Growth and market access harks hand in hand with minimizing domestic cost pressures resulting from a range of production inputs, including electricity and water, road transport, fertilizer and seed costs. The resulting margin pressure faced by South African farmers, has led to some employment losses, increased labour rates, and under-investment in productivity enhancing measures.

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resources. Overcoming this challenge will require innovation and a new agricultural production approach that uses precision engineering solutions as a method of growing the sector. Further moves towards more clearly defined trade streams and sound promotion initiatives focused on supporting small businesses will allow the dti to collaborate with all spheres of government to upscale the work during the 2015–2016 IPAP period.

South African products hubs: targeted shared infrastructure programme
Food agri-hubs/clusters are the future of the food sub-sector, and have strong potential to contribute to economic rebalancing in South Africa. More than 80% of the population is food insecure, mainly due to limited access to fresh and nutritious food. To support sustainable food production is enhanced by the growing population and high levels of HIV prevalence in many South African communities.

The hubs aim at stimulating the local economy and creating employment opportunities. They will optimise the use of current natural resources in the region and develop skills through agribusiness and food processing – primarily by creating a central processing and marketing company. This will be supplied by out-growers and supported by localised distribution hubs that run through local pack-sheds in selected and approved sites within the project area.

Key milestones
2015/16 Q1: Undertake market analysis for the products to be processed
2015/16 Q2: Identify the location of the hub and identify targeted beneficiaries of the farmers to process their canola into oil for export markets.
2015/16 Q3: Launch the e-centre for the targeted export programme for the SA products hub.
2015/16 Q4: Launch the centre for the targeted export programme for the SA products hub.

2. Establishment of a pilot domestic agri-business hub
Nature and purpose of the intervention
The agribusiness cluster includes shared facilities and services (e.g., transport, storage and packaging) built explicitly for the processing of agricultural products earmarked for export markets.

Targeted outcome
The establishment of the hub will create a shared space in which products can be produced and marketed internationally. It will also help farmers who are in the same sector to benefit from bulk procurement of inputs. The establishment of a canola processing plant within the hub will enable the farmers to process their canola into oil for export markets, thus stimulating both the farmers and the local economy.

Nature and purpose of the intervention
One of the major challenges for the manufacturing industry, particularly in this region, is the ongoing trend towards steep increases in agricultural-based food prices. A recent World Trade Organisation (WTO) study confirmed that food manufacturing sectors such as canning, dairy, beverages and tobacco, distilleries and wineries, grain products and animal feeds are most likely to be negatively affected by price increases in the agricultural sector. It will optimise the use of current natural resources in the region and develop skills through agribusiness and food processing – primarily by creating a central processing and marketing company. This will be supplied by out-growers and supported by localised distribution hubs that run through local pack-sheds in selected and approved sites within the project area.

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Section profile
Casava is a perennial woody shrub with an edible root, which grows in tropical and subtropical areas of the world. The crop ranks very high among crops that convert the greatest amount of solar energy into soluble carbohydrates per unit of area. Among the more than 200 species of the subfamily, cassava possesses much of the potential to contribute to social-economic rebalancing in South Africa. More than half of the South African products hubs: targeted shared infrastructure programme

Key milestones
2015/16 Q1: Identify the location of the hub and identify targeted beneficiaries of the farmers to process their canola into oil for export markets.
2015/16 Q3: Launch the e-centre for the targeted export programme for the SA products hub.
2015/16 Q4: Launch the centre for the targeted export programme for the SA products hub.

2. Establishment of a pilot domestic agri-business hub
Nature and purpose of the intervention
The agribusiness cluster includes shared facilities and services (e.g., transport, storage and packaging) that allow for the provision of common infrastructure facilities where enterprises gain advantages through co-location. This will also entail building the processing facility which will allow the cluster to sell processed food into the local market.

Targeted outcomes
The agribusiness cluster will stimulate the local economy, create employment, optimise agricultural potential and agri-processing by creating a central processing and marketing company. This will be supplied by out-growers and supported by localised distribution hubs that run through local pack-sheds in selected and approved sites within the project area.

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Nature and purpose of the intervention
The hub aims at stimulating the local economy and creating employment. It will optimise the use of current natural resources in the region and develop skills through agribusiness and food processing – primarily by creating a central processing and marketing company. This will be supplied by out-growers and supported by localised distribution hubs that run through local pack-sheds in selected and approved sites within the project area.

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Key Constraints
Key economic constraints that are holding back development of the cassava industry and its potential industrial applications are as follows:

- **Agronomic practices**: As much as cassava is cultivated in South Africa, it has never been carried out on a serious commercial scale; and, as a result, there exist no reliable, scientifically proven data on the optimal performance characteristics of cassava in significantly different geographic regions. The current cultivars with deemed to be fit for the South African geography have also not been properly tested on the ground.

- **Commercial potential vs subsistence realities**: Most of the land that would be required for cassava cultivation at scale is currently used for self-sustenance practices. Despite the commercial opportunity that may be presented by cassava land, the reluctance of local communities to change their practices may prove to be a deliberate and challenging task, involving fully convincing them that making the switch would not involve intolerable risk to their already precarious livelihoods. (See also “Agronomic practices” above, for the risk dimensions).

Nature of the Intervention
Supporting rural communities owning land with potential for cassava cultivation and the roll-out of field trials to scientifically determine if the crop can indeed be grown on a commercial scale as a feedstock for industrial starch production.

Support will be in the form of:

- Providing capacity to communities on how to grow and manage the crop.
- Funding the feasibility study.
- Assisting with business plan development to apply for investment capital.
- Providing skills and technology for cassava production and management.
- Leveraging financial support for the development of a cassava processing plant.

**Economic rationale**
To stimulate the supply of cassava as a raw material with the specific purposes of establishing processing capabilities within the domestic economy and stimulating import replacement. This has the potential to create about 10,000 jobs at both plantation and value-adding levels.

**Targeted outcome**
Commercialisation of cassava as an industrial crop, leading to growth and resulting in sustainable market-driven industry employment opportunities.

**Key milestones**
2015/16 Q3: The dti and TIA to conduct a bankable feasibility study on cassava production in South Africa.
2015/16 Q2-Q4: The dti and TIA to facilitate to pilot cassava production in KZN.
2015/16 Q1: Lead department: the dti and TIA.

Supporting departments/agencies: DAFF, DITF, DORILS, NIF.

4. Development of small-scale dairy processors

**Sector profile**
The dairy sector in South Africa contributes substantially to the country’s employment rate. In 2006 there were 4,184 raw milk producers who provided job opportunities for more than 60,000 farm workers, also providing 40,000 people with indirect jobs within the milk processing value chain.

Currently the actual number of dairy producers is 1,661. This indicates a serious declining trend in producer numbers, a concerning factor given its negative impact on food security and employment rate/job creation.

Key constraints
The number of commercial dairy farmers in South Africa has been declining rapidly. Though raw milk production has stayed more or less stable, periods of shortages and surpluses do occur.

The current shortage of milk in the country emphasises the fact that South Africa is not self-sufficient in milk production in South Africa.

Although raw milk production has stayed more or less stable, periods of shortages and surpluses do occur.

Nature of the intervention
Development and facilitation of successful small-scale dairy processors in order to strengthen the domestic industry, create more entrepreneurs, increase South Africa’s exports of processed milk products and help new entrants to become more competitive in the global dairy market.

**Key milestones**
2015/16 Q4: Implement at least one small-scale dairy processing project.
2015/16 Q1: Mapping of existing small-scale dairy producers towards the development of processing investment project targeting small scale producers.  
Lead department: the dti.

Supporting departments/agencies: DAFF, DITF, MPO, SAMPRO, MilkSA.
5. Development and growth of the aquaculture sector

Sector profile

Aquaculture is the fastest growing food-producing sector in the world. The most recent figures for worldwide aquaculture show that it contributes around 30% to total fish production, albeit that the contribution of aquaculture to total fisheries production varies sharply from country to country. In South Africa, for example, aquaculture supplies only around 3% of total fish production.

The aquaculture sector in SA is fairly new. It has profound economic potential, but its performance is currently stunted by a combination of various limitations such as conflicting regulations from different government departments and market access problems, both on the domestic and international fronts. Typical issues in the domestic market would relate to public awareness about aquaculture products in general. In the international space the main stumbling blocks would be NTBs, MTF clauses and tariffs. More general cross-cutting issues would be fit-for-purpose infrastructure, access to state property - i.e. dams and sea space - and access to funding.

The sector currently contributes R 1 billion to GDP and employs about 4,000 people. The aquaculture sector in SA is fairly new. It has profound economic potential, but its performance is currently stunted by a combination of various limitations such as conflicting regulations from different government departments and market access problems, both on the domestic and international fronts. Typical issues in the domestic market would relate to public awareness about aquaculture products in general. In the international space the main stumbling blocks would be NTBs, MTF clauses and tariffs. More general cross-cutting issues would be fit-for-purpose infrastructure, access to state property - i.e. dams and sea space - and access to funding.

Key milestones

- 2015/16 Q1-Q2: Develop a draft strategy with input from all stakeholders.
- 2015/16 Q3: Package at least 1 investment proposal targeting new entrants into the aquaculture sector including one black industrialist in the sector.
- 2015/16 Q4: Project preparation towards implementation and the training of the 10 new entrants in the sector.
- 2015/16 Q4: Implementation and monitoring of at least 1 project commence.

Nature and purpose of the intervention

The project will focus on developing and strengthening the competitiveness and employment-creating potential of the South African aquaculture industry.

Economic rationale

The aquaculture industry is particularly important from a socio-economic perspective, since it contributes to food security, improved nutrition and poverty alleviation - directly by producing food fish, and indirectly by generating employment and income for the purchase of food. The contribution of aquaculture to employment is even greater.

If multiplier effects are added, 90% of aquaculture production and processing takes place in rural and coastal communities, providing economic stability and growth where such economic development options are often limited - particularly in areas where yields from wild fisheries have declined.

Targeted outcome

Consolidation and sustained/sustainable growth of the SA aquaculture sector in order to help it (through concerted state assistance programmes) to overcome its 'late starter' status and provide the resources and breathing space that will be required to make it internationally competitive.

Key milestones

2015/16 Q1-Q2: Project preparation towards implementation and the training of the 10 new entrants in the sector.
2015/16 Q3: Implementation and monitoring of at least 1 project commences.

6. “Eat Well, Eat Safe, Eat Local” Awareness Campaign

The “Eat well, Eat Safe, Eat Local” campaign is an on-going project that seeks to promote healthy eating habits and promote local products. It was implemented for the cearing sector in 2015/16. In the current phase, the campaign will be expanded to include more industries.

Nature and purpose of the intervention

The project will focus on promoting and strengthening healthy eating habits, contributing to dietary habit-change aimed at reducing at the level of obesity in South Africa.

Targeted outcome

Improve the uptake of healthy foods by the public and the new policy on sugar and salt reduction with food companies.

Key milestones

2015/16 Q1-Q2: Host one “Eat Well, Eat Safe, Eat Local” awareness campaign in two provinces.

Lead departments/agencies: the dti, DoH, Department of Education, municipality and stakeholders.

Supporting departments/agencies: the dti, DoH, Department of Education, municipality and stakeholders.

7. Poultry Sector Development Plan

Poultry production dominates the agricultural sector and is a major source of protein intake across the country. The poultry industry as a whole employs an estimated 107,857 people in its three main sub-sectors: breeders (15,000 people); eggs (6,000 people); chick producers (7,000 people); plus 59,739 indirect employees. The average gross value of production amounted to somewhere between R 32 to R 33,989,389,000 over the past ten years.

South Africa is, however, also the 7th largest importer of poultry meat in the world. In response to this, the dti will develop a strategy to develop the industry and improve its competitiveness.

Nature and purpose of the intervention

The project will focus on developing and strengthening South African poultry industry.

Targeted outcome

To improve the domestic and global competitiveness of the South African poultry meat industry whilst curtailing the influx of imported meat products in which SA has a significant price disadvantage.

Key milestones

2015/16 Q1-Q2: Consultation with the domestic and international industry, with a view to reiterating poultry production in South Africa.
2015/16 Q3-Q4: Develop a draft strategy within DAMT’s APAP programme on the poultry production sector.
2015/16 Q3-Q4: Consultation on the final strategy and its implementation.

Lead departments/agencies: the dti, DRDLR, DAFF, DPFO/SAPA, IDC, EDD.

Supporting departments/agencies: the dti, DRDLR, DAFF, DPFO/SAPA, IDC, EDD.
**Halaal Parks**

Islam is one of the largest and fastest-growing religions in the world. Close to 25% of the world’s population is Muslim - nearly 1.6 billion people. The global halaal sector is becoming more sophisticated and consumer demand insha’Allah is shaping the way in which food should be produced and processed. In response to this, the dti will facilitate development of a Halaal Products Supplier Park in South Africa.

**Nature and purpose of the intervention**

The project will focus on developing and strengthening the South African Halaal industry, creating more employment opportunities and enhancing the competitiveness of the sector.

**Targeted outcome**

Increased participation, competitiveness and integration of small-scale Halaal processors into the global halaal market.

**Key milestones**

- In the dti, DAFF, IDC, EDD and stakeholders.
- Enhanced collaboration between the agencies.
- Increased participation of small-scale Halaal processors in the global halaal market.
- Improved competitiveness of South African Halaal products in the global market.

**Introduction**

Forestry, Timber, Paper, Pulp and Furniture

The forestry sector maintained a positive trade balance, with a total value of R 19.3 billion in 2013 for exported forestry products. Charcoal, paper and paperboard, pulp, sawnwood and wood-based articles are the leading export products, constituting around 94% of total forestry products. The sector is strategically important in the greater forestry value chain. It is the oldest, most established and well-developed industry, with more than 200 enterprises producing lumber. Pine sawmilling is dominant and the structure of the industry is labour-intensive and highly susceptible to economic cycles and downturns. The region has been endowed with high-quality indigenous forests which, if used properly, could lead to significant growth in the region’s forestry value chain. Currently, raw timber is often exported to Asian countries with very little beneficiation. What would be beneficial for the region would be the creation of regional value chains that would move timber products into processing plants adding a further value.

SA sawmilling industry contributes 7.7% to manufacturing GDP and 25.5% to agricultural GDP. The forestry and forest products industry contributes about R 42 billion to GDP. The sector - especially sawmilling and associated activities - is labour-intensive processes, which, by their nature, are important employment drivers.

**Table 1: Employment**

<table>
<thead>
<tr>
<th>Sub-Sector</th>
<th>No. of employees</th>
<th>Total Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>83,700</td>
<td>70,000</td>
</tr>
<tr>
<td>Pulp and Paper</td>
<td>13,200</td>
<td>10,800</td>
</tr>
<tr>
<td>Sawmilling</td>
<td>20,000</td>
<td>10,000</td>
</tr>
<tr>
<td>Timber Board</td>
<td>6,000</td>
<td>n/a</td>
</tr>
<tr>
<td>Mining Timber</td>
<td>2,200</td>
<td>n/a</td>
</tr>
<tr>
<td>Total</td>
<td>115,100</td>
<td>50,800</td>
</tr>
</tbody>
</table>

The sawmilling industry supplies feedstock to building and construction, furniture, joinery and packaging. Timber is a renewable raw material resource which is capable of generating its own energy requirements.
Key constraints
- Shortage of raw material supply: Dwindling supplies of raw timber, sizes and poor log quality pose serious threats to the sustainability of the sawmilling sector. These shortages translate into high timber prices for sawmills, who then pass a proportion of this cost increase to downstream customers through higher sawn timber prices.
- Keeping abreast of global technological advancements: The pace of technological improvement and modernisation in South Africa’s sawmilling industry generally lags behind most of its peer competitors. This is particularly the case as many informal small-scale sawmills are concerned, but less for the larger formal sawmills faced with agri-forestic equipment, many small-scale sawmills not only struggle to compete in the local and global marketplace, but also struggle to maintain their old technologies as it becomes increasingly difficult and expensive to access replacement parts. The modernisation of sawmills extends beyond the acquisition of new and more efficient technologies, to improving the skills base and the technical know how of the workforce so as to extract maximum benefits from any technological improvements that are implemented.

Key opportunities
- Regional development offers a potentially sustainable supply of raw material into neighbouring countries - Mozambique and Zimbabwe being the key target countries.
- Cluster and hub development for forward integration into the production of value-added products such as furniture components, low-cost housing components, doors, windows, window frames and similar building products.
- The possibility to enter the export market with innovative products which focus on African-inspired functionality and design. This however will only be successful if small-scale sawmills are sufficiently organised to cooperate effectively to penetrate export markets.
- Small-scale sawmills have the opportunity of organizing themselves into a formal Association that will act on their behalf, both with regard to securing log supplies and to capturing improved local marketing and export opportunities.
- The sector has the potential to create job opportunities in rural communities by beneficiating waste material produced and upgrading technology.

Key Action Programmes
1. Productivity improvement through technology upgrading

Nature and purpose of the intervention:
- This programme is intended to assist small- and medium-scale sawmills to improve their productivity through technology upgrading.

Economic rationale
- Small to medium scale sawmills use old technologies which make their businesses uncompetitive and unsustainable.

Targeted outcomes
- Improved recovery rate and competitiveness of the sawmilling industry.
- Improved recovery rate and competitiveness of the sawmilling industry.

2. Conduct a feasibility study on the establishment of a sawmill cluster (value-addition facility)

Nature and purpose of the intervention:
- This programme is intended to assist small- and medium-scale sawmills to improve their profitability through value-addition to their end products.

Economic rationale
- Small to medium-scale sawmills use old technology and do not add sufficient value to their products, resulting in their businesses becoming uncompetitive and unsustainable.

Targeted outcomes
- Improved recovery rate and competitiveness of the sawmilling industry.

Key milestones
- 2015/16 Q1- Q2: The dti to identify and consult 4 small-scale sawmilling companies and develop an Enterprise Development Report and a company-based Action Plan.
- 2015/16 Q3-Q4: The dti to work in collaboration with identified companies to develop action plans for the identified enterprises.
- 2015/16 Q3-Q4: The dti to facilitate the application process for dti incentives relevant to the sector.
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- 2015/16 Q3-Q4: The dti to work in collaboration with identified companies to develop action plans for the identified enterprises.
- 2015/16 Q3-Q4: The dti to facilitate the application process for dti incentives relevant to the sector.

Lead departments/agencies: the dti.

Supporting departments/agencies: DAF, SEDA, COMISA, SACU, SEDA, Fibre Processing and Manufacturing SETA.
1. Furniture Design Competition

Nature and purpose of the intervention

South Africa lacks sufficient tuition specifically geared towards furniture design, which leaves it lagging behind most major competitor manufacturers in design education. There is a serious skills mismatch between what the industry needs and what is being offered by training providers - who are typically restricted in what they can provide. The objective of this programme is to present an alternative and engaging course design. The students will be trained in furniture design, both at entry level and at a more advanced level. The project will aim to develop a comprehensive package of support services for these manufacturers, including proper advisory services and financing. This will involve bringing together and coordinating existing support available from government departments and other organisations. The main aim is to package these services and ensure that they are communicated to the potential beneficiaries.

Targeted outcomes

- Improved competitiveness, productivity and sustainability of the trained manufacturers.
- Improved skills development in the sector, especially high-level design skills, helping to address key areas of market failure, encourage specialisation and improve productivity and competitiveness.

2. Furniture Manufacturing Hub

Nature and purpose of the intervention

The project will focus on identifying all Furntech-trained individuals/manufacturers and supporting them to develop and market their end products.

Targeted outcomes

- Improved competitiveness, productivity and sustainability of the trained manufacturers.
- Improved skills development in the sector, especially high-level design skills, helping to address key areas of market failure, encourage specialisation and improve productivity and competitiveness.

3. Plastics Industry

Nature and purpose of the intervention

The plastics industry has been experiencing a profound downturn in demand, as it struggles to adjust to changes in the market for its products, high input costs and a rising tide of imports. Competition from advanced developing countries is having an impact on patterns of domestic demand, with cheap imports of relatively low-cost value-added products causing many parts of the world’s plastics industry to收缩 or collapse. As a result, a number of companies have relocated their manufacturing facilities to low-cost production countries and have themselves become importers. The rising cost of the polymers used by the plastics conversion industry has made many of its customers resist the inevitable price increases that follow and led them to seek alternative sources of supply wherever possible.

Targeted outcomes

- Improved competitiveness, productivity and sustainability of the trained manufacturers.
- Improved skills development in the sector, especially high-level design skills, helping to address key areas of market failure, encourage specialisation and improve productivity and competitiveness.

4. Competition in FY 2014/15

The winners of the competition were announced in March 2015 at the Design Indaba, Cape Town. The project represents collaboration between Furntech, the dti Marketing Division and the SABS Design Institute. The SABS Design Institute will continue to support all these projects and follow the progress of the competition finalists to market their end products.

5. Manufacture their end products.

Key Milestones

2015/16 Q1-Q3:

- Improved competitiveness, productivity and sustainability of the trained manufacturers.
- Improved skills development in the sector, especially high-level design skills, helping to address key areas of market failure, encourage specialisation and improve productivity and competitiveness.

6. Key Action Programmes

1. Furniture Design Competition

Nature and purpose of the intervention

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- Improved skills development in the sector, especially high-level design skills, helping to address key areas of market failure, encourage specialisation and improve productivity and competitiveness.
The compound annual growth rate (CAGR) for the plastic industry over the next 5 years is expected to increase to about 4.8% from the 2013 growth rate of 2%. This increased CAGR can mainly be attributed to an expected increase in demand for packaged food and an expected rise in the use of plastics in the automotive industry. There are approximately 2,000 companies in the plastic converting industry, employing 60,000 workers – each of whom, on average, convert approximately 25 tonnes of plastic polymers annually.

Sectoreconomic data

<table>
<thead>
<tr>
<th>Variable</th>
<th>Contribution in 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing value-added</td>
<td>R 1.5bn</td>
</tr>
<tr>
<td>Manufacturing employment</td>
<td>60,000</td>
</tr>
<tr>
<td>Trade balance</td>
<td>-R 0.8bn</td>
</tr>
</tbody>
</table>

Key constraints:

- Among key barriers to growth in the plastics sector are:
  - Import parity pricing of polymers and other key inputs;
  - Electricity pricing and reliability of supply;
  - The slow pace of technological upgradation;
  - Strong competition from imports;
  - (Non-) proximity to markets (and related high logistics costs);
  - The relatively small size of local and regional markets;
  - Skilled shortages across the plastics value chain.

Key programmes:

1. Development of a plastics production and innovation cluster

- Nature and purpose of the intervention
  Cluster development in the plastics sector to deal with testing, R&D and skills. Plastics companies are generally small to medium-sized, family-owned businesses with no or limited R&D activities, limited testing facilities and serious skills deficits. The intention is to develop intermediate plastics products and develop economies of scale based on shared infrastructure, equipment and knowledge, thereby strengthening capacity to access existing and new markets.

- Targeted outcomes
  The key outcome of this intervention can therefore be seen as enhanced integration of key intermediate plastic products into other industrial sectors’ production and value-adding processes.

2. Promotion of the integration of plastics products in identified key sectors and cross-cutting areas

- Nature and purpose of the intervention
  Collaboration between the plastics sector and other major industrial sectors in which plastic products contribute more integrally to their production processes. Sectors identified for this financial year include automotive, medical equipment, construction and rolling-stock.

- Targeted outcomes
  The intermediate nature of plastics products as components in other manufacturing processes means that the sector needs to be positioned at the centre of industrial strategies that are cross-cutting in nature in order to benefit from the substantial knock-on effects - including growth - generated by other sectors. Hence; increased demand for plastic products through integrated supply chains and increased localisation in many of the inter-connected sectors. The key outcome of this intervention can therefore be seen as enhanced integration of key intermediate plastics products into other industrial sectors’ production and value-adding processes.

Key milestones:

2015/16 Q1:
- Develop TOR for the cluster management.
- Development Business Plan and Marketing Plan for cluster product.
- Implementation of the business plan.
- Facilitate acquisition of resources for the functioning of the cluster.

2015/16 Q2:
- Stakeholder engagement of key sectors.
- Identify key opportunities for integration of plastics with other sectors.
- Identify key opportunities for integration of plastics with other sectors.

2015/16 Q3-Q4:
- Implementation of identified opportunities.

Pharmaceuticals and medical devices

Introduction

Estimation at US $ 4.2 bn (R 45 bn) at the ex-factories price level in 2013, the South African pharmaceutical market is the largest on the African continent. Putting this into perspective, however, it accounts for just 0.4% of the global market. Nevertheless, with regard to regulatory standards and the quality of manufacturing facilities, the South African pharmaceutical sector is among the world’s most advanced. The South Africa healthcare sector is comprised of two distinct segments: public and private. The differences and disparities between the public and the private healthcare sectors - varying 42 million and 8 million South Africans respectively - are also reflected in the pharmaceutical market, with the former accounting for 25%, and the latter 65% of the market by value. Over the medium to long term it is intended that these two healthcare segments will gradually merge into one, under the National Health Insurance (NHI) Programme. The NHI Programme, planned on a pilot scale from 2012 and expected to be completed by 2021.

The South African pharmaceutical sector is characterised by high import penetration estimated at 65% - including the active pharmaceutical ingredients (APIs). Imports of pharmaceuticals, excluding APIs, were R 22.0 bn in 2013. The two largest groups of importers are large US-based multinational companies (at R 7.5 bn) and various small and medium-sized hospitals and local pharmacies (at R 8.6 bn).

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Transnational corporations (TNCs) dominate the South African private sector market, but their contribution to domestic manufacturing is disproportionately lower.

TNCs with manufacturing operations in South Africa include Freunau-Holts, GlaeselThiemtl (GTA), Johnson & Johnson, Merck Sharp & Dohme (MSD), Sandor and Taft-Avanti. The Indian companies manufacturing in South Africa are Cipla, Ranbaxy and Portfolio Pharmaceuticals. India is the largest supplier of pharmaceuticals to South Africa, both in the finished-dosage form (imports to the value of R 16.2 bn in 2013) and APIs, especially APIVs. While pharmaceuticals (primarily generics) imported from India are yet to establish prominent positions in the private sector, they account for over 65% of the public (government tender) market where they compete with South African generic medicines.

Domestic manufacturing of medical devices ranges from simple products such as condoms and ‘medical textiles’ – bandages, plasters and sterile wound dressings - through wheelchairs, stents and implants for head and limb surgery - to the world’s technologically most advanced full-body X-ray scanner (‘Lodox’).

Currently, only a few categories of medical devices are regulated by the Medicines Control Council (MCC). This has led to an uncontrolled flood of cheap, often sub-standard imported products. At the same time, the export potential of South African manufactured products has been affected by the absence of internationally-accredited inspection and certification bodies. The situation is expected to rapidly improve following the entry into force of new Medical Device Regulations (draft published for comments on 22 April 2014). The current version is still undergoing fine-tuning with the broad participation of industry, academia and medical practitioners, in order to avoid regulatory lock-ins affecting the pharmaceutical sector.

Jointly, medical products - i.e. pharmaceuticals, medical devices and medical diagnostics - constitute the single most important component of the South African export basket with an estimated value of US$ 1.3 bn (R 14.3 bn) in 2013. It involves over 200 companies, most of them foreign manufacturers. The South African human-grade vaccine project (Biovac) is seriously delayed, due to a multitude of reasons ranging from technology barriers to securing finance. The positive example posting a loss of nearly R1 bn over the first three quarters of 2014). The South African medical devices sector (which includes medical diagnostics) was estimated at US $ 1.3 bn (R 14.3 bn) in 2013. It involves over 200 companies, most of them foreign manufacturers. The virtually total reliance on imported active pharmaceutical ingredients is the “Achilles heel” of the South African pharmaceutical industry. The only domestic API manufacturer, the Fine Chemicals Corp. in Cape Town (a subsidiary of Aspen-Pharmaceuticals) supplies less than 5% of South Africa’s API requirements. So far, attempts to start domestic manufacture of advanced APIs, including those for APIs (“Project KetaPharma”) and anti-TB medicines have not been successful, chiefly due to (i) the above mentioned, critical integration into international, vertically and horizontally integrated for API synthesis; and (ii) competition from large, established, perfectly horizontally integrated API manufacturers in India and China.

More than 20% of medical products are imported from India and China without any form of certification or regulatory oversight. India is the largest supplier of pharmaceuticals to South Africa, both in the finished-dosage form (imports to the value of R 16.2 bn in 2013) and APIs, especially APIVs. While pharmaceuticals (primarily generics) imported from India are yet to establish prominent positions in the private sector, they account for over 65% of the public (government tender) market where they compete with South African generic medicines.

Imports of pharmaceuticals from India grew by 64% year-on-year from R 2.42 bn in 2012 to R 3.97 bn in 2013 - a paradoxical situation considering that many South African generic manufacturers operate on less than 50% capacity. The virtually total reliance on imported active pharmaceutical ingredients is the “Achilles heel” of the South African pharmaceutical industry. The only domestic API manufacturer, the Fine Chemicals Corp. in Cape Town (a subsidiary of Aspen- Pharmaceuticals) supplies less than 5% of South Africa’s API requirements. So far, attempts to start domestic manufacture of advanced APIs, including those for APIs (“Project KetaPharma”) and anti-TB medicines have not been successful, chiefly due to (i) the above mentioned, critical integration into international, vertically and horizontally integrated for API synthesis; and (ii) competition from large, established, perfectly horizontally integrated API manufacturers in India and China.

Imports of APIs present an increasing financial risk and burden to the domestic pharmaceutical manufacturer due to the volatility of the South African currency and the inflexible mechanism for price adjustment (the Single Exit Price, SEP, in the private sector, adjusted once a year, and the Health Department tender prices, adjusted six-monthly). These factors, combined with low capacity utilisation and the loss of government tenders to imports, has negatively impacted on the financial situation of most South African pharmaceutical manufacturers (for example posting a loss of nearly R1 bn over the first three quarters of 2014). The South African human-grade vaccine project (Biovac) is seriously delayed, due to a multitude of reasons ranging from technology barriers to securing finance. The positive example posting a loss of nearly R1 bn over the first three quarters of 2014). The South African medical devices sector (which includes medical diagnostics) was estimated at US $ 1.3 bn (R 14.3 bn) in 2013. It involves over 200 companies, most of them foreign manufacturers. The virtually total reliance on imported active pharmaceutical ingredients is the “Achilles heel” of the South African pharmaceutical industry. The only domestic API manufacturer, the Fine Chemicals Corp. in Cape Town (a subsidiary of Aspen-Pharmaceuticals) supplies less than 5% of South Africa’s API requirements. So far, attempts to start domestic manufacture of advanced APIs, including those for APIs (“Project KetaPharma”) and anti-TB medicines have not been successful, chiefly due to (i) the above mentioned, critical integration into international, vertically and horizontally integrated for API synthesis; and (ii) competition from large, established, perfectly horizontally integrated API manufacturers in India and China.

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1. Development of industrial strategy for the medical devices sector

Nature and purpose of the intervention

- A jointly-developed and accepted document (government, industry, labour, academia, NGOs) to guide the South African medical devices sector to optimise its manufacturing and trade, meet Government’s healthcare priorities (including the National Health Insurance) and gradually reduce the sector’s trade deficit.
- Design a set of sector-specific economic and regulatory interventions to fully exploit the economic potential of the South African medical devices sector.

Targeted outcomes

- Optimised quantity and structure of imports, exports and domestic manufacturing base of medical devices.
- An environment (economic, legislative, regulatory etc.) conducive to sustainable growth of the sector.
- Rapid technology progress in the global medical device industry to the full benefit of the SA economy.

Key milestones

2015 Q1-Q2: Discuss the objectives and the Terms of Reference for the industrial Key milestones

2016

2015 Q2-Q4: Undertaking a joint (IDC, DBSA, industry) updated and sector-specific cost-benefit analysis to calculate the maximum price premium for domestic pharmaceutical manufacturers that brings revenue-neutral outcome to the SA economy. Presenting the results and recommendations for endorsement by the Ministerial Economic Cluster.

2015-2017

Collecting data and conducting economic analysis for all pharmaceutical tenders (domestic manufacturing capacity, cost of manufacture); submitting tender designation analysis to the relevant Ministers and Departments.

Leads departments/ agencies: the dti, DoT, MEC, SANSIPA, SABS. For the industry – SANED.

Supporting departments / agencies: NT, EDD, DOC, MEC, SANSIPA, academia.

3. Optimising public sector procurement of medical consumables (Pharmaceuticals, medical devices)

Nature and purpose of the intervention

A jointly-developed and accepted document (government and industry) to optimise the systematic deployment of Preferential Procurement Regulations, removing the gaps and ambiguities that create the potential for perversities; agreement on a set of rules to fully exploit the manufacturing potential of the South African pharmaceutical and medical devices industries; meeting the conditions imposed by budgetary constraints and ensuring security of supply of pharmaceuticals and medical devices.

Targeted outcomes

- Removing internal barriers to growth in the South African pharmaceutical and medical devices industries by increasing their participation in public sector procurement.
- Reducing the sector’s trade deficit.
- Attracting domestic and foreign investment.
- Preserving existing jobs and creating new employment opportunities.
- Creating an economic base enabling the implementation of the National Health Insurance Scheme.

Key milestones

2015 Q1-Q2: Establish and implement compulsory standards for the 1st group of medical devices procured by the State (Phase 1: 44 line-items; lead Department: the National Treasury).

2015 Q3-Q4: Adopt the 1st draft of the Strategy (Q3). Finalise and adopt / endorse the Strategy (Q4).

2016 – 2017: Implement, monitor progress and (where necessary) fine-tune the Strategy.
In the past two years the Cosmetics Exports Council of South Africa (CECOSA) has successfully increased its membership from an initial founding base of 12 members to 85 members and is growing at approximately 3 members per month. The Council has exhibited successfully both locally and internationally and the export of cosmetic products is growing at a steady rate. The Council will be exhibiting at Cosmoprof Bologna in 2016.

Key Opportunities
- Increased foreign and domestic investment.
- Growth in production output leading to increased exports of value-added manufactured goods.
- Employment creation.
- Transfer of technology and skills development.
- Increased innovation in ethics hair care.
- Beneficiation and commercialisation of Southern African plant (mega) biodiversity for the cosmetics sector.
- Creation of stronger economic linkages through supplier development.

Key Constraints
- Continuing relatively weak market intelligence and firm level networking.
- Competition from large branded TNCs.
- Price implications of using local agents to penetrate new markets – especially in developed countries.
- High cost and long duration required to develop a brand or country positioning.

### Nature and purpose of the intervention
A campaign to differentiate South African ethnic hair care, sun protection products and ‘African’ claims with regard to the uniqueness through leveraging of unique local natural resources and ‘African’ ingredients.

### Targeted outcomes
- Increased mass market sales into Africa and increased niche market sales into developed country markets.
- Increased, targeted support of aerosol producers can result in increased production, mass market development in Africa and increased niche market sales into developed country markets.
- Increased mass market sales into Africa and increased niche market sales into developed country markets.
- Increased innovation in ethnic hair care final goods.
- Increased perception of SA products as being unique - as measured by price and quality differentials.

### Key milestones
2015/16 Q1-Q4: In partnership with incubation centres and industry, facilitate the development and commercialisation of new products.
2015/16 Q2-Q4: Increased connectivity between researchers, developers and manufacturers.
2015/17 Q1-Q4: Increased demand for SA exports in the ethnic hair care and aromatherapy product market.

### Supporting departments / agencies
- dti
- DEA: Industry, Pharmaceuticals, DST, CSIR.

2. Increase investment, upgrade capital equipment and processes
Design and implement a basket of interventions aimed at upgrading the competitiveness of contract packers and their ability to meet new standards and requirements demanded by the global care sector.

### Key issues include:
- Upgrading equipment and processes to meet medical/pharmaceutical standards;
- Increased contract with and exposure to product and process development undertaken at publicly funded research institutes;
- Market development to increase demand for contract packing services;
- Domestic contract packers are beginning to position South Africa as the global destination of choice for small batch production in the personal care sector; and
- Product development and commercialisation in South Africa.

### Nature and purpose of the intervention
Upgrading equipment and processes to meet new standards and requirements demanded by the global care sector.

### Key opportunities
- Support for improved competitiveness of contract packing services, in addition to increased technology transfer, direct and indirect investment opportunities and increased exports.

### Key constraints
- High cost and long duration required to develop a brand or country positioning.
- Continuing relatively weak market intelligence and firm level networking.
- Competition from large branded TNCs.
- Price implications of using local agents to penetrate new markets – especially in developed countries.
- High cost and long duration required to develop a brand or country positioning.

### Key milestones
2015/16 Q1-Q4: Increased number of contract manufacturers/packers meeting medical/pharmaceutical standards.
2016/17 Q1-Q4: Increase number and value of TNC and export contracts.

### Lead departments / agencies
- dti
- Supporting departments / agencies: The industry.

3. Aerosol manufacturing cluster
Aerosols have been a popular and convenient option for personal, household, automotive, industrial, paint, and other industries throughout South Africa and the Western world for well over 50 years. They are extremely versatile and are able to dispense a wide variety of products safely, hygienically and efficiently. South Africans use in excess of 200 million aerosol products annually; and industry trends show that aerosol product sales increase as GDP and household income increase, and that as lower income households become middle income households, aerosol usage increases even further. Aerosols are no longer viewed as environmentally unfriendly due to the use of non-CFC propellants, and all cans, dip tubes and butons are fully recyclable. South Africa is home to a complete aerosol value chain and the industry includes small, medium and large players, many of whom are internationally competitive (especially on small batch runs). Due to economies of scale, demand volumes and input prices are key drivers of competitiveness, and for competition for contracts in the domestic market is high.

### Key constraints
- Demand constraints, high input prices and low margins have constrained new investments in the industry.
- Key opportunities
- Increased, targeted support of aerosol producers can result in increased production, increased technology transfer, direct and indirect investment opportunities and increased exports.
Nature and purpose of intervention

To identify systemic constraints which impede the growth of the industry and to resolve and/or ameliorate such impediments in collaboration with industry stakeholders; to actively work on locational economies of scale that will result in employment creation.

Targeted outcomes

- An enabling environment for increased production at low cost.
- Upgraded investment in technology that will ensure international competitiveness.
- Increased sales into Africa.
- Improved collaborative relationships with relevant research institutions.
- Positioning South Africa as the global destination of choice for small batch voice-centric services.

Key Milestones

2015/16: Engage with relevant stakeholders regarding the proposed cluster.
2016/17: Develop Terms of Reference for cluster management.
2017/18: Develop a business plan with industry for cluster establishment.
2017/18: Facilitate acquisition of resources for running the cluster.

Lead departments/agencies: the dti.
Supporting departments / agencies: Industry association (JANAA), industry.

Business Process Services

Introduction

The dti’s Business Process Services programmes continue to aim at growing investment that services the offshore market. The main objectives are: increasing employment (particularly youth employment); increasing the domestic component to service the offshore market; and increasing South Africa’s market share as a global destination for offshored business process services.

The industry at large, including the domestic component, has grown to more than 300,000 agents and 30,000 support staff. The estimated growth rate is 26% per annum.

To date, the South African Business Process Services Incentive has grown to support the creation of approximately 16,500 jobs. This is attributable to the introduction of a BPO & O Incentive between 2007 and 2010 – followed by the shift from BPO&O to BPS in 2011.

After a comprehensive review of the incentive in 2014, new programme guidelines were launched in October 2014. Distinctive characteristics of the new programme can be summarised as follows:

A. A tiered incentive structure with a declining scale maintained over a period of five years.

Key highlights of this element are:

- L1 incentives: For L1 jobs (voice-centric contact centre work such as customer service, telemarketing, inbound sales etc.) to qualify, the fully loaded operating cost per job should be less than or equal to R 300,000 per annum and the quantum of incentives per job being: R 40,000 for 2014/15, 2015/16 and 2016/17; R 20,000 for 2017/18, 2018/19.

- L2 incentives: For L2 jobs (non-voice work such as, reconciliation, insurance claims, analytics, legal processing, social media services, and customer care etc.). To qualify, the fully loaded operating cost per job should be greater than R 300,000 per annum and wages should contribute at least 65% of cost base with the quantum of incentives per job being: R 40,000 for 2014/15, 2015/16 and 2016/17; and R 32,000 for 2017/18, 2018/19.

B. An added bonus incentive based on performance.

C. A requirement for 80% of the funded agents to be youth.

On the skills pool front, the partnership between the National Skills Fund, the Jobs Fund, the dti and the industry has produced a robust domestic industry which is increasingly becoming competent in capturing foreign contracts. By the end of the 2014/15 financial year the programme will have put 13,797 unemployed youth through BPS skills programmes – with approximately 20,000 of these graduates entering gainful employment in BPS firms post-training.

Sector economic data

Variable

<table>
<thead>
<tr>
<th>Contribution 2014/15</th>
<th>Contribution 2015/16</th>
<th>Total contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment resulting from incentives</td>
<td>7,295</td>
<td>9,181 (BPS)</td>
</tr>
<tr>
<td>Unemployed youth trained under Monyetla</td>
<td>4,467</td>
<td>5,756</td>
</tr>
<tr>
<td>Unemployed youth employed from MWRP</td>
<td>3,463</td>
<td>4,258</td>
</tr>
<tr>
<td>Foreign direct investment</td>
<td>$8,369 (actual)</td>
<td>$8,5,985 (projected)</td>
</tr>
</tbody>
</table>

Key opportunities

- Investment in Africa through Shared Services Centres;
- Sharing emerging sub-markets with higher valued Shared Services Centres, Legal Process Outsourcing, Back-Office processing, Online shopping;
- Potential investment in tier-2 towns, municipalities and rural areas, due to lower investment costs;
- Broadening penetration of English-speaking markets other than the UK.

Constraints

- A shortage of skills at middle management levels;
- Increasing competition by other offshore locations, especially new competitors in the industry;
- Slow transformation.

Key Action Programmes

1. Implementation of the Business Process Services (BPS) Incentive programme

Nature and purpose of the intervention

The main result of the review conducted during 2014A has been to institute a new granted scheme which now extends over five years. The purpose of the new scheme is to sustain the strong growth momentum of the BPS industry, which – being predominantly voice-centric – is ideally suited to job creation for unemployed youth.

The incentives will also help in increasing the competitiveness of South Africa as a BPS location for higher-value jobs, thus helping it to move up in the value chain in emerging areas such as marketing BPS, Legal Process Outsourcing, Social Media, analytics, Banking Financial Services and Insurance BPS. A bonus incentive is offered for greater job creation if the applicant exceed annual offshore job creation targets.

Targeted outcomes

The new guidelines will increase financial benefit for companies planning to set up or grow in South Africa. The incentives will help reduce operating costs for companies by 11-12%, thereby reducing the cost gap between SA and its competitors. The incentive is expected to result in the creation of approximately 18,000 new jobs by 2019.

Key milestones

2015/16/16-G1: Ongoing implementation of the BPS incentive.

Lead departments/agencies: the dti.
Supporting departments / agencies: NT.
2. Talent development for the BPS sector

Nature and purpose of the intervention

In the first phase of implementation of the BPS Sector Support Programme, the main area of focus was marketing South Africa as an investment destination, as the global industry was not even aware of the country’s capabilities in this space. Having achieved this to a significant degree — mainly by launching some well-known captive transnationals — the focus has shifted to addressing the challenge of a skills gap, particularly at middle management level, in combination with the development of specialised skills for the industry.

The Monyetla Work Readiness Programme provides support by partnering with the industry in the provision of skills development programmes leading to gainful employment. The programme’s focus is on unemployed youth from the target group as defined by the National Skills Development Strategy (NSDS).

Targeted outcomes

The continuation of the programme will increase the number of agents with specialised skills as well as the pool of domestic managers. The next phase will provide a “Monyetla” (an opportunity) to an additional 3,220 unemployed youth from across the country to gain work experience, both in this industry and in other sectors of the economy.

Key milestones

2015/16 Q2-Q4: Training of 3,220 unemployed youth at NQF level 4 and above takes place.

2015/16 Q4: 483 unemployed youth recruited from 2 and tier 3 towns, townships and rural areas contracted into employment.

2015/16 Q4: 2,100 trained learners contracted into employment for a minimum of a 12-month contract.

2015/16 Q1: Benchmarking Report completed.

Lead departments/agencies: the dti.

Supporting departments / agencies: NT.
SECTORAL INTERVENTIONS 2
IPAP 2015/16 – 2017/18 SECTORAL FOCUS AREAS CLUSTER 2

DEVELOP THE MINING/MANUFACTURING INTELLIGENCE to provide resource-based industrialisation.

KEY VALUE CHAINS: Focus on market and project based beneficiation of iron, cobalt, titanium, platinum group metals (PGMs), polymers and mining capital equipment.

CATALYTIC CONVERTERS: Support for engine and exhaust producers.

FUEL CELLS: Long-term development of fuel cell manufacturing facilities.

INDUSTRIAL MEAT: Develop processing schemes for local marketing.

CHAR: Develop a collaborative approach for carbon mitigation.

DRIVEN BY INNOVATION: Support for small and medium enterprises.

PROCUREMENT & EXPORTS: Programme to support emerging enterprises.

LOCALISATION: Assist small and medium enterprises with exports.

ROLL-OUT: Create support mechanisms for this roll-out by the Department of Communication’s broadband policy.

GREEN TRANSPORT: Developing policy for production of compressed natural gas (CNG), bio-fuels and hybrid vehicles.

RENEWABLE ENERGY INDEPENDENT POWER PRODUCERS: Procurement Programme for engineering, construction and operational contracts.

ENGINEERING: Development, manufacturing, and procurement of solar photovoltaic energy.

SELF SUFFICIENCY: Enhance the capacity for the production of solar photovoltaic energy and green skills.

CARBON: Develop a collaborative approach for carbon mitigation and implementation of carbon tax targets.

IPAP SECTORAL FOCUS AREAS 2

OIL AND GAS

INDUSTRIAL MEAT

PLASTICS AND POLYMERS

INNOVATION

IT

RURAL ECONOMIC

AID

AGRICULTURE

NATIONAL

INFRASTRUCTURE

GREEN TRANSPORT

MINING AND METALLURGY

INDUSTRIAL MEAT

PUBLIC SECTOR

SAFETY AND SUSTAINABILITY

RENEWABLE MEANING

INNOVATION IN DEVELOPMENT

INNOVATION IN DEVELOPMENT

INNOVATION IN DEVELOPMENT
All of these elements need to be recognised and systematically implemented so that could be sustained stably over the medium to long term (unforeseen regional geopolitical shocks excepted).

The dynamic possibilities of gas exploitation can already clearly be identified in Mozambique, where emerging gas projects are seen as having every chance of transforming the energy mix, the scale of proven reserves and – very importantly – the advanced stage of project development.

South Africa is therefore looking at both emerging, close-at-hand supply capabilities and significant opportunities for local companies to participate in the development of Mozambican gas resources. Involvement in this process should not be underestimated, since it offers significant opportunities for developing new skills and know-how that could be critical for the longer-term evolution of a strong South African gas and petrochemical industry.

Opportunity to improve and calibrate regulatory and policy regime

Low oil price periods expose inadequate and uncoordinated regulatory and policy outcomes; but they can also afford a crucial opportunity to improve such regimes in solidarity with and on behalf of all.

The dti has a key role to play in absorbing the lessons of successful regional gas exploration and exploitation, drawing carefully and critically on every area of emerging neighbouring country practice to craft a sophisticated gas industrial policy for South Africa that is fully integrated with broader regional developmental initiatives and complementarity.

Forecast

According to market analysts such as IHSPlatts and Wood Mackenzie, current fundamentals is likely oil price杁etracting a level around US$90 per barrel - and geopolitical stability will play a key role in medium term forecasts (e.g. forecast stable growth in US crude prices).

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The dotted line in Figure 1 illustrates the advanced stage of project development in Mozambique as a result of the projects in its gas province. In contrast, the case of South Africa shows a certain delay in the stage of the development and exploration phases, which can be explained by the tendency to invest in the development of South Africa's gas economy and of its gas industrialisation policy.

Regional opportunity and cooperation critical

Because the development of South Africa's more speculative domestic resources – particularly Karoo shale gas - will likely be delayed during a period of low oil prices, the regional importance of sound gas policy is further heightened, as a means of providing a bridge towards the next cycle of investment and development of this potentially critical new domestic resource.

In the short term, South Africa must import gas (and oil) in order to establish the important regional cooperation critical for the longer-term evolution of a strong South African gas and petrochemical industry.

Towards responsible gas industrial policy guidance

The regulatory provisions for transforming gas industrial policy is profound. As first stated in last year's report, the recent rush to unlock the gas sector's potential is in essential that South Africa gets its policy decisions correct. This will require the development of an overall strategy and regulatory framework that will serve as a game-changer, both for individual jurisdictions and the wider region. In the coming decade, Mozambique is likely to become the world's third largest exporter of liquid natural gas (LNG). Not only Qatar and Australia – with total gas reserves of approximately 200-250 tcf and plans by Anadarko and ENI consortia to the wider region. In the coming decade, Mozambique is likely to become the world's third largest exporter of liquid natural gas (LNG) - behind only Qatar and Australia - with the price steadily rising and achieving a level around US$90 per barrel - and geopolitical stability will play a key role in medium term forecasts (e.g. forecast stable growth in US crude prices).
Figure 1: Oil price base case

The history of oil price fluctuation...  

Source: JP Morgan/Wood McKenzie

Introduction

In 2010 Citibank estimated SA’s non-energy mineral resources at US$2.5 trillion, whilst in 2012 Eco Partners, using data from over 90 SA mining companies, estimated the value of SA’s minerals at over US$6 trillion - with 60% of this value residing in precious minerals. But the big problem remains the preponderance of raw commodities in the export basket: the value of unbeneficiated mineral exports over the past 5 years standing at over 50% of total mineral exports. There is no doubt that the immediate to mid-term future of the sector will be a large extent be shaped by the degree of success that can be achieved in rapid development of the value of the entire minerals value chain.

Over the years there has been strong debate on whether mineral value chains can be further expanded to allow for more value addition within South Africa, thus converting the comparative advantage presented by mineral endowment into a sustainable competitive advantage. Over the past 10 years less than 10% of iron ore, less than 5% of gold and less than 1% of PGMs have been sold to SA-based beneficiators. In 2014 the dti estimated that approximately US$11 trillion will need to be invested in oil and gas by 2030. Research indicates that global investments made into the oil and gas sector are intended more than US$20 billion and development of major Karoo shale gas acreage could easily approach US$50 billion. To ensure that the effects of these investments are maximised for the benefit of the host countries as a whole, a clear strategy needs to be developed that establishes and deepens all possible linkages into and out of these industries.

Long-term strategy that considers various petroleum and petro-chemical value chains, including the production of electricity from gas and liquid fuels from refined products in their entirety, with a view to establishing and deepening backlinking, forward and lateral linkages from these chains, both domestically and regionally.

Key milestones

- Establishment of a working group made up of key government leaders and their advisors to spearhead the research and policy development.

- Fact-finding missions to relevant jurisdictions that have successfully harnessed the potential for onshore development of renewable gas and petroleum resources.

- Conclusion of cases by the Competition Commission;

- Conclusion of scrap steel export tax proposals;

- Access and pricing of key inputs (energy/power, skills, iron ore/steel, scrap metal, polymers);

- Inadequate and expensive infrastructure: rail: branch-lines, roads, electricity, water supply and ports;

- Slow pace of regional integration and development of regional physical and trade infrastructure.

Key Opportunities

- Transfer of technology and skills development;

- Creation of economic linkages through supplier development for the mining, oil and gas sectors;

- Planned regional integration of SADC, SACU, COMESA and EAC.

Key Constraints

- Delays in finalising key legislative enablers (the Mining Charter);

- Competion Act amendment;

- Conclusion of cases by the Competition Commission;

- Conclusion of scrap steel export tax proposals;

- Delays in finalising clear fiscal policy;

- Access and pricing of key inputs (energy/power, skills, iron ore/steel, scrap metal, polymers);

- Inadequate and expensive infrastructure: rail: branch-lines, roads, electricity, water supply and ports;

- Slow pace of regional integration and development of regional physical and trade infrastructure.

Nature and purpose of the intervention

The intervention is aimed at identifying the potential drivers of economic growth, employment opportunities, skills development and other issues which may arise from the up-, mid- and downstream petroleum and gas industries, with a view to designing a long-term Strategic Framework to leverage the opportunities presented by recently discovered regional and South African resources, both domestically and for the Southern African region as a whole.

Economic Rationale

Research indicates that global investments in the oil and gas sector are intended to increase significantly over the next 10 years, with most of the investments finding their way into historically low-income developing economies in Sub-Saharan Africa, as resources in developed countries continue to decline. More specifically, it is estimated that approximately US$1 trillion will need to be invested in oil and gas by 2030. Investment in the two trains of the Bloemfontein LMK project is expected to be more than US$50 billion and development of major fonoil shall gas resources could easily approach US$50 billion. To ensure that the effects of these investments are maximised for the benefit of the host countries as a whole, a clear strategy needs to be developed that establishes and deepens all possible linkages into and out of these industries.

Targeted outcomes

- A long-term strategy that considers various petroleum and petro-chemical value chains, including the production of electricity from gas and liquid fuels from refined products in their entirety, with a view to establishing and deepening backlinking, forward and lateral linkages from these chains, both domestically and regionally.

- More robust pricing over time.

- Employment creation;

- Oil and gas discoveries in South Africa and the Southern African region;

- Increased foreign and domestic investment;

- Creation of economic linkages through supplier development for the mining, oil and gas sectors;

- Planned regional integration of SADC, SACU, COMESA and EAC.

- Transfer of technology and skills development;

- Creation of economic linkages through supplier development for the mining, oil and gas sectors;

- Planned regional integration of SADC, SACU, COMESA and EAC.

- Transfer of technology and skills development;
Key Action Programmes

1. Development of Mineral Beneficiation Action Plans (MBAP)

Nature and purpose of the intervention
Despite loss of market share in the home and export markets over the past decade, the SA capital goods sector still has a significant cluster of firms in mining equipment and related services operating at the global technological fronter. The multiplicity in promoting manufacture of capital goods are significant and promoting the sector will complement the state’s procurement localisation strategy. Through the development and introduction of specific and targeted cluster support programmes (skills, jobs, R&D, caps, cores, open, etc.), the mineral capital goods sector has the potential to expand rapidly off the domestic and continental markets and to become a significant employer, export, fiscal revenue contributor and centre of technological innovation, with spillovers into other sectors. This action programme is aimed at achieving the synthesis of implementing a support programme for mining capital goods to stimulate local content and exports of mining capital equipment.

Targeted outcomes
- Targeted support measures to increase the supply of mining goods (plant, machinery, after-market) that can unlock and deepen capital goods manufacturing in SA for local consumption and export into key markets.
- Strategic input into the legislative review of the Mining Charter [2010] to include the recognition and reward of local content.

Supporting departments/agencies: DMR, EDD, DST.

Supporting departments/agencies: DMR, EDD, DST.

Targeted outcomes
- Develop and implement programme as informed by study recommendations.

Supporting departments/agencies: DMR, EDD, DST.

2. Stimulation and expansion of the capital goods sector – Resources Capital Goods Development Programme (RCGDSP)

Nature and purpose of the intervention
Despite loss of market share in the home and export markets over the past decade, the SA capital goods sector still has a significant cluster of firms in mining equipment and related services operating at the global technological fronter. The multiplicity in promoting manufacture of capital goods are significant and promoting the sector will complement the state’s procurement localisation strategy. Through the development and introduction of specific and targeted cluster support programmes (skills, jobs, R&D, caps, cores, open, etc.), the mineral capital goods sector has the potential to expand rapidly off the domestic and continental markets and to become a significant employer, export, fiscal revenue contributor and centre of technological innovation, with spillovers into other sectors. This action programme is aimed at achieving the synthesis of implementing a support programme for mining capital goods to stimulate local content and exports of mining capital equipment.

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Supporting departments/agencies: DMR, EDD, DST.

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Targeted outcomes
- Develop and implement programme as informed by study recommendations.

Supporting departments/agencies: DMR, EDD, DST.

Targeted outcomes
- Develop and implement programme as informed by study recommendations.

Supporting departments/agencies: DMR, EDD, DST.

3. Expansion of the PGM beneficiation industry – Fuel Cells

Nature and purpose of the intervention
South Africa has the world’s largest known PGM resources endowment, estimated at about 80% of total global reserves. Whilst SA is a major supplier into the global market, current beneficiation of PGM’s in SA stands at less than 15% - essentially limited to the manufacture of auto catalytic convertors. The main steps involved are: (i) Investment promotion initiatives to secure potential customer markets; and (ii) the consequent unlocking of technology, system- and component-level innovation; and (iii) the enhancement of engineering capabilities in the industry. Since it is evident that market demand will drive the rate of industrialisation, the economic viability of establishing the industry in SA depends on structured and focused market development, early adoption and demonstration activities as a significant scale.

The key envisaged outcomes will be: (i) successful demonstrations of the technology; (ii) market development - including early-adoption applications; and (iii) successful mobile demonstration and funding incentives packages to develop the industry in SA.

Key Milestones
2015/16 Q1-Q4: Detailed and workshop Mineral Beneficiation Action Plans with key stakeholders.
2015/16 Q2-Q3: Present the Steel Industry Position Paper for approval.
2015/16 Q4: Develop and implement programme as informed by study recommendations.

Supporting departments/agencies: DMR, EDD, DST.

Supporting departments/agencies: DMR, EDD, DST.

Targeted outcomes
- Present the Steel Industry Position Paper for approval.

Supporting departments/agencies: DMR, EDD, DST.

Targeted outcomes
- Develop and implement programme as informed by study recommendations.

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Targeted outcomes
- Develop and implement programme as informed by study recommendations.

Supporting departments/agencies: DMR, EDD, DST.
4. Viability of unlocking iron ore and titanium resources in the Bushveld Complex

Nature and purpose of the intervention
Finalisation of a scoping study initiated in 2014 to assess the economic viability of exploring the Bushveld Complex (BC) magnetite deposits to produce iron-ore/steel and titanium (metal and pigments) in SA.

The study - whose outcomes will be used to attract major investments - will examine options to link existing iron-ore mining and downstream steel projects in a manner that will optimally unlock the resource to produce both steel and titanium.

Targeted outcomes
SA has major iron-ore and titanium magnetite reserves which have to date not been economically exploited – mainly because conventional technologies are not suited to this unique and huge mineralisation. The economic impact of the proposed assessment of the BC magnetite complex could be of great significance to value-added exports, job creation (direct and downstream) - primarily as a result of intermediate lockdowns (steel, pigment and titanium metal/pigments) becoming available at competitive prices (GDP).

The assessment will indicate whether such a project would be economically viable and what support or facilitation it may need.

Lead departments/agencies:
- the dti
- EDD and IDC.

Supporting departments/agencies:
- DPW, DOT, DPE, DWA.

5. Leveraging the infrastructure-build programme to increase local content of construction materials

Nature and purpose of the intervention
Evaluate the infrastructure challenges that inland beneficiators face, and engage SOCs and other service providers to ensure timely delivery of inputs at competitive rates.

Targeted outcomes
- Through the PICG, SA will be spending R 8.4 billion on the expansion and upgrading of roads, rail, ports, power, water and communications infrastructure. Besides ensuring that such infrastructure developments consider and are aligned to the beneficiation aspirations of the country for the minerals value chain and the oil and gas sector, the dti will ensure that locally produced goods and services are prioritised in the construction process.

Key Milestones
2015/16 Q3: Final report including proposals on industrial opportunities, technologies for developing and linking to existing plants and/or projects and requisite interventions approved by the Steering Committee.

Lead departments/agencies: the dti, EDD and IDC.

Supporting departments/agencies: CPW, DOT, DPE, DWA.

Green industries
Introduction
South Africa continues to be one of the most energy- and carbon-intensive economies in the world despite the fact that the country accounts for only 1.5% of the global GHG emissions.

South Africa continues to be one of the most energy- and carbon-intensive economies in the world despite the fact that the country accounts for only 1.5% of the global GHG emissions. In 2010, these three sectors accounted for 61%, 29% and 8% of the country’s total emissions respectively. Moreover, if electricity emissions are allocated to end-use sectors, industries then account for 57% (11% for energy) of total emissions. Reducing South Africa’s GHG emissions is therefore deeply linked to mitigating emissions from local industries.

During 2014 the dti conducted an international benchmarking exercise to shed light on what might be the optimum policy package to reduce South Africa’s carbon footprint, taking into account factors such as:
- government’s ability to coordinate and implement multiple policies, some of which may not necessarily be complementary with one another;
- industry’s willingness to respond to a low carbon future; and
- the financial cost to both government and industry;

The policies available to reduce GHG emissions with a view to mitigating climate change are as follows:
- the financial cost to both government and industry;
- environmental impact;
- and how the policy performs in the best practice.

In addition to benchmarking, this work also provided a critical evaluation of the types of instruments available to mitigate GHG emissions from industrial sectors, making use of a framework developed by the International Panel on Climate Change (IPCC). The study was also conducted to analyze the interplay between climate change mitigation and industrial development in the South African context.

The policies available to reduce GHG emissions with a view to mitigating climate change can be divided into six overarching categories, namely: (1) price-based economic instruments; (2) quantity-based economic instruments; (3) regulatory approaches; (4) information and education measures; (5) government provision of goods and services, including public procurement; and (6) regulatory approaches.

Ultimately no single measure is in a position to effectively reduce emissions in isolation while taking into account all other considerations. In the end, each measure presents both advantages and disadvantages which must be understood and weighted. In broad terms though, the most mitigation-efficient policies generally raise competitiveness concerns and/or fiscal affordability issues, whilst more voluntary and supportive instruments tend to lack environmental effectiveness.

The interaction between policies - both in terms of trade-offs and synergies - must be considered when selecting and implementing interventions for low-carbon development and climate change mitigation. Problematic combinations of instruments occur when multiple policies at the same level are aimed at addressing the same areas of market failure. The combination of a carbon tax and a cap-and-trade programme is a case in point. Problems can also occur when combining an emissions pricing policy and a performance standard in order to limit emissions per unit of production. For example: emissions pricing is hailed as the most cost-effective approach; but it may not necessarily be complementary with other instruments. The added policy requirement either makes the pricing mechanism redundant or complicates its cost effectiveness (IPCC, 2014c).

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The relationship between climate change policy and industrial development in South Africa is not straightforward, particularly in the short to medium term, and includes a series of potential trade-offs. Fundamentally, industrial policy is at the core of economic, social and environmental sustainability, and is the main channel towards achieving inclusive green growth. Additionally, maintaining the international competitiveness of domestic companies is deeply intertwined with maintaining low-carbon technologies.

The development of a green growth strategy for the country is driven by the Department of Environmental Affairs (DEA) – notably through the National Climate Change Policy/White Paper (NPCP) and the National Strategy for Sustainable Development and Action Plan 2011-2014 (NSSD1). Policy interventions are, however, scattered between various departments. 

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At present, the threat of green protectionism to South African firms is underestimated. Growing protectionism measures that are not as obvious as tariff barriers can ultimately have a significant impact (e.g., private schemes and the growing use of green mandates). An in-depth threat analysis of competitive trade and climate change measures is needed at sectoral level; as preparation is key to dealing with the associated risks.

Finally, generating the appropriate GHG emissions data (based on Statistics South Africa’s Standard Industrial Classification codes) will constitute an important milestone on the road to implementing and monitoring coherent climate change policy in South Africa. Positioning the generation of appropriate data (in terms of GHG emissions, energy consumption, etc.) in the correct timeframe is key to obtaining any government support - would substantially fast-track the climate change agenda in the country, with no direct adverse impact on industrial structures.

**Key Action Programs**

1. **Industry development through leveraging procurement in the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP)**

**Introduction**

The REIPPPP has so far made a determination to procure 6,925 MW of renewable energy capacity, essentially nullifying any ongoing IPPs, so a preference for bidders in Bid Windows 1 to 3. These windows have a total committed expenditure of approximately R 16 billion. The key role of REIPPPP is that successful bidders in Bid Window 3, local content commitments ranged between 44% and 54%, depending on technology.

**Key Initiatives**

- Localization through leveraging government and private sector procurement, where effective, is an extremely powerful instrument to promote economic growth, job creation and industrialisation. It can enhance the competitiveness of national industry, enable the development of new national industrial and technological capabilities and ultimately increase exports.
- The key driver of price premiums in relation to the value that is extracted from a procurement, regardless of whether the procurement contains supplier development requirements, is the quality and rigour of the planning, market engagement process, contracting and the contract management process.

The localisation programme has so far attracted investments of over R 760 million in renewable energy-municipal facilities, mainly wind and solar PV. More investments are expected in the near future; hence a need to continue reviewing and increasing local content thresholds and targets in subsequent bid windows, whilst investigating and implementing other tools to attract investment. The opportunity to support equipment to the African region also exists - and will allow manufacturers to achieve optimum economies of scale and improve competitiveness.

**Key Opportunities**

- A lack of policy coherence and alignment within government can undermine the effectiveness of procurement as a lever to promote economic growth.
- The ability to optimise the development of impactful (particularly large) procurements is key when supplier development and localisation are included in a procurement programme, can be reduced due to coordination challenges between the procurement and implementation departments and agencies. This can lead to reduced ability to strategically direct suppliers towards priority development capabilities.
- Investment in the local renewable energy industry is dependent on the size and pace of the renewable energy roll-out. Investments are made based on the published Bid Determinations, and the success of these windows will depend on a stable and continuous roll-out of renewable energy in South Africa.

**Key Milestones**

- 2016/17: Annual review of economic development criteria for the REIPPPP.
- 2017/18: Annual review of economic development criteria for the REIPPPP, aligned to the timeframes of the bidding windows.

**Leads Development Co-DP**

Supporting departments: agencies: the dti and CED.

**Resource efficiency and cleaner production**

**Introduction**

The South African industrial sector has developed in an atmosphere that assumed the country’s growth potential was unimpeded, and all that was needed for the growth drive was an enabling environment. This has led to the current situation, where large scale industries such as the coal-fired power plants.

**Key Opportunities**

- The behavioural changes required by existing industries will be done effectively, is an extremely powerful instrument to promote economic growth, job creation and industrialisation. It can enhance the competitiveness of national industry, enable the development of new national industrial and technological capabilities and ultimately increase exports.
- The key driver of price premiums in relation to the value that is extracted from a procurement, regardless of whether the procurement contains supplier development requirements, is the quality and rigour of the planning, market engagement process, contracting and the contract management process.

1. **Establish a formalised inter-governmental structure for decision-making on - and monitoring of - economic development and implementation criteria for the Independent Power Producer Programme.**
2. **Annual review of economic development criteria for the REIPPPP, aligned to the timeframes of the bidding windows.**
3. **Annual review of economic development criteria for the REIPPPP, aligned to the timeframes of the bidding windows.**
4. **Annual review of economic development criteria for the REIPPPP, aligned to the timeframes of the bidding windows.**

**Distribution**

1. **Leads Development Co-DP**
   - Supporting departments: agencies: the dti and CED.
Energy efficiency (reducing energy intensity) remains the option that ... and b) learning institutions’ readiness to integrate green skills learning modules into their existing curricula.

The National Cleaner Production Centre (NCPC-SA) was established by the dti in 2002 as the leading force to improve the competitiveness of industrial sectors, promote market access and contribute to economic growth and job creation – through Resource Efficiency and Cleaner Production (RECP) assessments – while at the same time engaging in advocacy on environmentally sound business practices. The NCPC-SA is tasked with strengthening activities that support green industry offerings to SA industries and significantly expand on its existing RECP training portfolio. The NCPC-SA is now in a position to draw on 12 years of experience in order to further develop meaningful offerings to SA industry and significantly build on its existing training portfolio.

Key constraints

Although the constraints related to data availability have largely been addressed by IEE Phase I, challenges remain to the implementation of wide-scale industrial energy efficiency improvements through EMSs and ESOS and the wider RECP.Chief among these is limited implementation by companies of energy audit outcomes (largely due to low levels of awareness and inadequate policy alignment within companies, creating barriers to investments in energy efficiency). While there is high recognition of EMS and ESOS training courses amongst the relevant professional bodies and associations, there remains a lack of recognition by governments and higher education authorities. New EMS course topics still need to be developed and promoted, lack of policy co-ordination across government – specifically concerning uncertainty surrounding the introduction of carbon tax, the development of Energy Efficiency Management Plans and the implementation of the Deemed Emission Reductions Scheme (DEROS), and the development of Energy Systems Optimisation (ESO) in Industry and sector linked to EnMS and ESO; and (ii) the expansion of project reach to enable more companies to benefit from reduced reliance on energy and fuel and reap the resulting benefits in terms of reduced operating costs. The ‘Green Skills Development’ aspect seeks to institutionalise and formalise green skills training in the education system as an important element in the transition to a low carbon economy. Bridging the current skills gap will increase the employability of appropriately skilled personnel, whilst contributing to long term economic, social and environmental sustainability. Existing technological and tacit knowledge build-up will be leveraged to contribute to the critical goals of job creation and retention.

Key milestones

Key Milestones

A recognised, institutionalised set of green skills qualifications.

Resource Efficiency and Cleaner Production (RECP) skills will play a critical role in the transition to a lower carbon economy.
Introduction

The transport fuels used in South Africa are predominantly petrol, diesel and jet fuel, with a basic fuel cost of ca. 150 SA cents/kW.

According to research by the dti, the fuel cost for transport is about 10X more expensive than the price per Gigajoule is compared to that of fuel for electricity

During 2013 petroleum and gas products to the value of R 207 billion were imported. The South African demand for imported petroleum products is in the order of about 800 litres per second with a cost of ca R 1.5 000 per second (R 450 million per day). Macro- economically, to maintain South Africa’s balance of payments requires the income from roughly all platinum, gold, coal and diamond exports to balance petroleum product exports. Even having a well-developed refining sector or making further investments in the refining sector will do little to reduce this problem, as more than 90% of the total costs of a refinery are accounted for by crude oil inputs.

The IDC has carried out an extensive analysis of alternate (and clean) transport fuels (pipeline) available at about R 50-R 100/GJ and natural gas and purified biogas are typically (internationally and in South Africa exported) available at about R 50-100/GJ – i.e. about 30-60% lower than the cost of petrol and diesel - excluding the necessary compression, storage and distribution costs for use in vehicles, as well as the vehicle conversion costs.

In the transport sector, the cost of fuel typically makes up about 50% of total transport costs and more than 70% of variable costs. The next largest cost item is capital cost – at more than 20% of total costs. A reduction in the operating cost of vehicles will not only save electricity to support lack of capacity at peak times. Without a reduction in the operating cost of vehicles there will be a multiplier effect across the economy.

There is currently a lack of incentives (uneven playing field) to support the uptake of biogas (and natural gas) utilisation in the transport market. The challenge for gas used in the transport sector is that the greater capital costs of distribution of gas, and the cost associated with vehicle conversions must be balanced against the benefits of lower or no emissions of pollutants or greenhouse gases, and fuel cost savings.

The energy system provides major air quality (and associated health) benefits, whilst at the same time providing more price savings.

Major local possibilities include:
- Manufacture of gas-fuelling infrastructure and supply of gas fuel.
- Manufacture of gas-powered vehicle fuel from Southern African sources: these can include (i) natural gas imported from neighbours such as Mozambique; (ii) biogas from municipal landfill sites and sewage sludges; (iii) green waste via anaerobic digesters; (iv) biogas from industrial wastes, such as manures, foods and abrasives; (v) biogas (also by anaerobic digesters) from energy crops grown on fallow (under-utilised) rural land. These manufacturing opportunities are all the public money, but will also result in a multiplier effect across the economy.

Electric vehicles

While certain existing vehicles can easily be converted to methan gas operation, new vehicles – and in particular those used for urban commuting and delivery purposes - are ideal candidates for battery electric operation. Electricity pricing systems that allow for low off-peak times and rates (surplus capacity being available from Eskom) to charge these vehicles will accelerate the uptake. Even though the upfront cost of these vehicles is currently higher than the price of internal combustion engine vehicles, their energy economy and maintenance costs make their cost operations and overall cost of ownership more attractive over the extended lifespan of the vehicle.

Electric vehicles do not produce any emissions at point of use, and it is also possible to power them via solar energy charging. Batteries can also act as a storage option for electricity to support lack of capacity at peak times.

Key constraints:
- Lack of policy and policy alignment. In general, the complex, integrated nature of the programme and the current fragmentation of policy in this space mean that the overall developmental responsibility lies outside the mandate of any one individual department, putting a premium on effective co-ordination.
- There is currently a lack of incentives (uneven playing field) to support the uptake of biogas (and natural gas) utilisation in the transport market. The challenge for gas used in the transport sector is that the greater capital costs of distribution of gas, and the cost associated with vehicle conversions must be balanced against the benefits of lower or no emissions of pollutants or greenhouse gases, and fuel cost savings.
- Investment in gas supply and off-take (vehicle conversions) must be aligned and co-ordinated right through the value chain.

Key opportunities

Gas powered vehicles

Petrol vehicles such as conventional sedan taxis and minibus taxis can be converted to run on both methane and petrol (diesel fuel) at a cost of about R 20 000. Diesel and compression ignition engines are not suitable to run on methane, so require different engines - generally better achieved through new investments - although conversions are possible to run on mixtures of 20-80% gas or 100% gas. Internationally, about 17 million vehicles are running on methane gas. This is the fastest growing global fuel type, with major OEMs supporting its use through increased availability of gas vehicles. These vehicles are running on methane gas. This is the fastest growing global fuel type, with possible to run on mixtures of 20-80% gas or 100% gas. Internationally, about 17 million vehicles have programmes have produced major air quality (and associated health) benefits, whilst at the same time providing more price savings.

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The South African demand for imported petroleum products is in the order of about 800 litres per second with a cost of ca R 5,000 per second (R 450 million per day). Macro-
Key Action Programmes

1. Develop and model policy and regulations to support biogas and natural gas use in transport

Nature and purpose of the intervention

To develop the necessary information to inform effective policy, regulations and incentives. The achievement of a green biogas transport fuels programme largely involves the public sector, and must be based on sending the correct signals to potential investors.

To confirm and/or review existing policy, using both the information gained from modelling and the lessons of international best practice findings (adjusted for the South African environment) to develop incentives (or disincentives) that will compensate different transport fuels and projects fairly.

Targeted outcomes

New policy and existing policy alignment will (i) support the capturing of available waste sources of biogas; (ii) support the use of clean biogas and methane in transport, particularly in public transport; (iii) provide certainty on the long term incentives (and disincentives) for different transport fuels and projects fairly.

Targeted interventions

- Waste-to-biogas anaerobic digester projects.
- Landfill gas projects based on municipal sites.
- Energy crops bio-digester in rural areas.
- Energy crops bio-digester in rural areas.
- Electric vehicles in urban areas and into niche markets such as solar-powered game viewing vehicles, underground mining vehicles etc.
- Develop policy and regulatory framework.
- Business cases for projects finalised, with the impact of potential incentives (and disincentives) specified.
- Selected projects to be implemented, with monitoring and feedback defined.
- A refined regulatory framework – with incentives and disincentives - for the different markets and sources of alternate gas fuels.

Lead Departments/Agencies: the dti, Department of Transport, Department of Cooperative Governance and Traditional Affairs, Department of Environmental Affairs, DoE, SANEDI.

Cooperative Governance and Traditional Affairs, Department of Environmental Affairs, DoE, SANEDI.

Nature and purpose of the intervention

Review and select the most appropriate commercial biogas projects to pilot and test regulations and incentives in the longer term.

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To develop the necessary information to inform effective policy, regulations and incentives. The achievement of a green biogas transport fuels programme largely involves the public sector, and must be based on sending the correct signals to potential investors.

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Targeted outcomes

New policy and existing policy alignment will (i) support the capturing of available waste sources of biogas; (ii) support the use of clean biogas and methane in transport, particularly in public transport; (iii) provide certainty on the long term incentives (and disincentives) for clean (and dirty) fuels; and (iv) send appropriate signals to the market.

Key Milestones

2015-14 Q4: Develop policy and regulatory framework.
2015-16 Q4: Business cases for projects finalised, with the impact of potential incentives (and disincentives) specified.
Selected projects to be implemented, with monitoring and feedback defined.
2016-17 Q4: A refined regulatory framework – with incentives and disincentives - for the different markets and sources of alternate gas fuels.

2. Develop and implement biogas projects

Nature and purpose of the intervention

Review and select the most appropriate commercial biogas projects to pilot and test regulations and incentives.

Pilot projects in at least the following areas:

- Landfill gas projects based on municipal sites.
- Waste-to-biogas anaerobic digester projects.
- Energy crops bio-digester in rural areas.

3. Facilitate and promote the introduction of electric vehicles (Low-carbon Transportation Project)

Introduction

Electric vehicles (EVs) present a high potential to reduce GHG emissions, in particular if powered by renewable energy (RE) sources.

Key opportunities

While certain existing vehicles can be easily converted to methane gas operation, new vehicles and in particular those used for urban commuting and delivery purposes are ideal candidates for battery electric operation.

Key constraints

- Lack of necessary policy and incentive programmes to encourage early market take-off and first movers;
- Low awareness within the public of the opportunities associated with EVs;
- Lack of the necessary supporting infrastructure to develop sustainable alternative forms of transportation. The growth of non-motorised transport, in particular cycling, has been very low in almost all developing countries due to a large extent and investors to start and maintain the growth of this sector.

Nature and purpose of the intervention

The incremental introduction of electric vehicles, particularly in urban transport. With greater certainty on long term incentives (and disincentives) for clean (and dirty) fuels - and with the envisaged positive impact of demonstrations under the LCT Project - the aim is to stimulate the uptake of electric vehicles into the SA transport sector, triggering a range of spin-off opportunities for new businesses supporting the industry with recharging infrastructure, energy-storage components (batteries) and so forth.

Key Milestones

2015-16 Q1: Project Document and resourcing finalised.
2015-16 Q2: Procurement of service providers commenced by UNIDO and initial project implementation commenced.
2015-16 Q4: Project implementation continues.
2016-17 Q1: Monitoring and evaluation commences.
2016-17 Q2: Project Mid-term impact evaluation commences.
2016-17 Q4: Project final report and assessment.

Supporting Departments/Agencies: DEA, DoE, DST, TIA.

Lead Departments/Agencies: the dti, in partnership with DoT, SANEDI, UNIDO.

Supporting Departments/Agencies: DEA, DoE, DST, TIA.
The South African shipbuilding industry specializes in the manufacture of multi-hull catamarans and is the world’s second-largest producer of vessels in this category. A number of local companies have been acknowledged for the excellence of their work and are considered to be global leaders.

The South African commercial boat building sub-sector generally performed well, and it continues to experience significant market growth. In particular, demand for working boats in Africa has greatly increased, mainly driven by the need for maritime patrol vessels to combat piracy on the East and West Coasts of the continent. The requirements of the burgeoning offshore oil and gas industry have also contributed to vessels to combat piracy on the East and West Coasts of the continent. The development of sector-specific training and skills improvement programmes. The creation of a pool of skilled workers in the core ship/boatbuilding industry and technology use in the sector.

Based on current capabilities and performance, the South African ship/boatbuilding industry faces the following major opportunities and constraints:

Opportunities:
- Opportunities to expand exports in non-traditional markets driven by industrial and tourism development in emerging markets, particularly including sub-Saharan Africa and the Middle East.
- Substantial growth opportunities in the commercial boat market, particularly including sub-Saharan Africa, with an emphasis on offshore speed craft, ferries, water ambulances and working boats.
- Opportunities to develop training, repair and maintenance operations in sub-Saharan Africa.
- Greater governmental collaboration with African countries and facilitation of expanded trade, e.g. through funding assistance.

Key constraints:
- Lack of innovation and technology development.
- Unavailability of training beyond NQF Level 4.
- Deficiency of specialist trainers.
- Lack of innovation and technology development.
- Unavailability of training beyond NQF Level 4.
- Targeted outcomes:
  - The creation of a pool of skilled workers in the core ship/boatbuilding industry and wider value chain; consolidation of industrial placements; enhancement of innovation and technology use in the sector.

Ship/Boatbuilding and Associated Services Industry

Introduction

Figure 1: Trade data of commercial vessels

Source: StatsSA
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Advanced Materials

Composites

Composites are two or more materials with markedly different physical or chemical properties that retain their identities without dissolving or merging completely into one another, producing benefits that are 'more than the sum of the constituent parts'.

Composites incorporate various materials in such a way as to establish a sufficient matrix that retains its identity without dissolving or merging completely into one another, providing benefits that are ‘more than the sum of the constituent parts’. Composites are therefore categorized as a 'matrix' or 'reinforcement' of complementary materials.

The packaging of an integrated maritime value proposition comprising shipbuilding, ship repair, rig repair, port management operations and training for developing maritime nations in Africa.

Key milestones

2015/16 Q1 – Q2: Development of a skills strategy with options that will inform the development of a demand-led skills plan.

2015/16 Q3: Industry consultation on the appropriate architecture of the skills plan.

2015/16 Q4 - 2017/17 Q1: Development of the institutional arrangements that will govern the implementation of the skills plan.

2016/17 Q1 - Q2: Monitoring and evaluation through a Technical Working Group (TWG) including industry, the dti and training institutions.

2016/17 Q2: Implementation of the skills development programme.

2016/17 Q3 - Q4: Launch of the strategic marketing campaign.

2016/17 Q4: Development of the institutional arrangements that will govern the implementation of the skills plan.

2017/18 Q1 – Q2: Conduct an industry analysis and investigation of current opportunities to grow the South African aerospace market.

2017/18 Q3: Monitoring and evaluation through a TWG including industry, the dti and training institutions.

2017/18 Q4: Launch of the strategic marketing campaign.

Supporting departments/agencies: dti, NGA, Dipu, DOT, Industry.

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2017/18 Q4: Development of the strategic marketing campaign.

Supporting departments/agencies: the dti.

2017/18 Q4: Launch of the strategic marketing campaign.

Supporting departments/agencies: the dti.

Nature and purpose of the intervention

The application of composite technology is associated with superior benefits which include: light weightedness (as compared to most woods and metals); high strength to weight ratios; weather and harsh chemical corrosion resistance; design flexibility (implying that radio signal transmission is not obstructed - hence rendering composites useful for this reason South African has placed composites squarely on the national agenda. New military applications in the fields of post-conflict reconstruction, disaster relief and infrastructure rehabilitation such as concrete, steel and ductile iron products to composite products made out of polymer concrete and cement composite materials are leading the latter including electricity, construction, housing, health and educational infrastructure. Research has led to the realization that municipalities and other public sector entities are moving away from metals and concrete, and a significant local investment has been made in a SOC aerospace inspection chambers/manhole covers and frames, catch-pit manholes; not only for its non-magnetic (since no metals are incorporated into the design); radar transparency (implying that radio signal transmission is not obstructed - hence rendering composites ideal materials for use in the vicinity of radio equipment, whether on the ground or in the sky to increase South African and international competitiveness; and durability (long life and little need for maintenance).

Opportunities in the Aerospace & Defence industry

South Africa has a problem with regard to the future ‘shaping’ of this industry. On the one hand, there is no single enterprise with a large enough share of the composite market to be able to decisively influence the industry’s direction; on the other hand, there is little or no access to reliable data about contribution to GDP, growth and employment; because composites are input components into various industries.

Nevertheless, certain opportunities have been realised in a number of key sectors. For example, a growing number of aerospace and automotive manufacturers use composite materials for reasons of the accelerating trend towards composite material use away from metallic structures towards advanced composite materials. Some of the most important advantages of composites use are:[i] enhanced performance of weight to strength; [ii] savings in manufacturing by using lighter parts or component lifespans deriving from better fatigue resistance properties.

Key opportunities

The Presidential Infrastructure Coordinating Committee (PICC) identified 18 Strategic Integrated Programmes (SIPs) which offer opportunities for investment in public procurement. Of particular interest to the composites industry are the spatial, energy, water, sanitation and social infrastructure SIPS – which include: water, sanitation and social infrastructure SIPS; energy SIPS; spatial SIPS. Of particular interest to the composites industry are the spatial, energy, water, sanitation and social infrastructure SIPS – which include: water, sanitation and social infrastructure SIPS; energy SIPS; spatial SIPS.

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Key opportunities

The Presidential Infrastructure Coordinating Committee (PICC) identified 18 Strategic Integrated Programmes (SIPs) which offer opportunities for investment in public procurement. Of particular interest to the composites industry are the spatial, energy, water, sanitation and social infrastructure SIPS – which include: water, sanitation and social infrastructure SIPS; energy SIPS; spatial SIPS. Of particular interest to the composites industry are the spatial, energy, water, sanitation and social infrastructure SIPS – which include: water, sanitation and social infrastructure SIPS; energy SIPS; spatial SIPS.
composite facility to manufacture products ranging from simple aircraft parts to complex main rotor blades for helicopters. South African companies are active in the production of aircraft interior panels, ballistic products to secure military vehicles (such as helicopters and armoured vehicles), send turbine blades, mine ventilation fans and parts for smaller aircraft (cars, gliders etc.). The use of composites to reduce the weight of armoured vehicles will contribute significantly towards consolidating South Africa’s top position in this market.

- **Opportunities in the Automotive Industry**
  Over the past decade the automotive sector has been considerably increasing its demand for lighter, stronger and smarter materials and structures to keep up with the technological advances requested by OEMs.

- **Infrastructures and construction industry**
  Due to a growing demand for housing, alternatives such as composite structures that are more affordable without compromising safety, with environment-friendly materials and manufacturing processes are becoming important. Composite schools, houses, and police stations can now be erected in less than four days and can incorporate integrated noise and thermal insulation qualities. Significant global market opportunities for composites lie in (i) the manufacture of corrosion-resistant pipes that reduce leakage in the transportation of drinking water and sewage; (ii) the reduction of corrosion and abrasion in paper and pulp processing, and in the petrochemicals, oil and gas industries; (iii) transparency to radio waves; (iv) making composite material suitable for manufacture of housing and covers for antennae, radar etc.

- **Nano-technology**
  The next wave in manufacturing technology is already on the horizon with the introduction of nanotechnology into the production process for composite materials. This will contribute to even further reducing the need for metallic structures in manufacturing processes.

**Key constraints**
- Local research activities in this field are inadequate, and the industry has experienced declining growth in recent years.
- A lack of technological infrastructure.
- A polarised industry in terms of technology developments.
- Insufficient skills development.
- An incomplete value chain.
- Inferior imports and the absence of proper S&DAM measures, compounded by the absence of an adequate import duty structure for composite products.
- Barriers to entry, including steep initial costs of investment and the high technical standards required for participation in the global composites market.
- A strengthened local manufacturing base with enhanced market access to local and export markets.
- Enhancing local technological manufacturing capabilities, attraction of investment into the industry and job creation.
- Development of local technological manufacturing capabilities, attraction of investment into the industry and job creation.
- A strengthened local manufacturing base with enhanced market access to local and global supply chains.
- Engagement of the high-tech skills base that underpins the South African composites industry.

**Key Action Programmes**

1. **Localisation of composite infrastructure products**
   Nature and purpose of the intervention
   An analytical study is currently under way which aims to inform the dti’s approach to the localisation potential of composite infrastructure products that are procured for the state infrastructure-build programme.

   **Targeted outcomes**
   Once appropriate quality standards and functional safety requirements are in place, the localisation potential of composite infrastructure products that are procured for the state infrastructure-build programme.

   **Key constraints**
   - A lack of local infrastructure.
   - Insufficient local expertise.
   - Insufficient local capacity.
   - Insufficient local quality standards.
   - Insufficient local marketing efforts.
   - Insufficient local sales and distribution channels.
   - Insufficient local support services.

   **Lead departments/agencies:** the dti (IDD&TISA), EDD and NT.

   **Supporting agency:** SABS.

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**2015-2016 - Q2:** Research into two new products in glass-reinforced composite poles used for lamp posts, street signage, telephone poles, traffic lights etc.

**2015-2016 - Q2:** Submit a proposal to SABS to ensure the inclusion of adequate standards of quality, safety and functionality in composite infrastructure products.

**2015-2016 - Q3:** Work to create dedicated investment attraction mechanisms in pertinent areas of input components: fibre-glass, carbon fibre and epoxy resin.

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**2016 – Q4:** Designation of glass-reinforced composite poles and engagement with municipal engineers and supply chain officials to increase awareness of the existence of alternative composite materials.

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**Lead departments/agencies:** the dti (IDD&TISA), EDD and NT.

**Supporting agency:** SABS.
Aerospace and Defence

Sector Profile

The aerospace and defence sectors share a related technological and manufacturing base, with the boundaries between civilian and defence applications often overlapping. The combined sector is technology-intensive, creates substantial exports and has multiple positive spillover effects to other industries. These are mainly related to knowledge generation and transfer (especially in manufacturing, skills and related civilian sectors).

The South African government has committed to continue supporting the aerospace and defence industry in view of the fact that it is a national strategic asset providing armaments and services to the SANDF, SAPS and the rest of the security cluster, and it already has a strong footprint in global value chains.

One of the main interventions by government was the establishment in 2012 of the Joint Aviation Support Centre (JASC) to provide a national, interdepartmental platform to co-ordinate, position and expand the competitiveness of the aerospace and defence industries.

The South African aerospace and defence sector continues to grow at a high rate, driven by a number of factors. The sector has benefited from the aerospace component manufacture. Participating SMMEs will be evaluated based on the following criteria:


Key constraints

• The National Industrial Development Strategy needs to be updated to guide the relevant interventions.

• Lack of large development programmes to build technology, expand localisation and develop human capacity.

• Fragmentation and duplication of components and products.

• Slow industry transformation.

• Inadequate competitive aerospace and defence support programmes, resulting in a lack of facilities and equipment costs and a shortage of start-up financing resources.

Key Action Programmes


Nature and purpose of the intervention

Significant growth in the aerospace and defence industry has generally been as a result of foreign policy-related initiatives (government-to-government, arms sales), and strategic capabilities - focussing particularly on shipbuilding, helicopters, missiles, armoured vehicles and trucks to support the enhancement of SADI strategic capabilities - focussing particularly on indigenous South African aircraft. If the project takes off, it should be a catalyst for further significant economic growth, infrastructure development and job creation.

Potential for sustainability and growth;

Retail and restore the philosophies, ‘can do’ approach

Strengthening the industry’s footprint in existing export markets and enhancing its capabilities to enter into new niche markets.

Broadening industry participation through a supplier development incentive scheme.

Unlocking present incentive programs to support the aerospace and defence industry.

Integrating the sub-tier suppliers into the local and global supply chain by developing industry-wide manufacturing capabilities and competitiveness in engineering, manufacturing and technology origins.

Leveraging government or State Owned Companies’ acquisitions of aircraft, land and maritime systems and related equipment to boost local manufacturing by participating in offset programmes and building further on global supply value chains.

Strengthening the industry’s footprint in existing export markets and enhancing its capabilities to enter into new niche markets.

Key milestones


2015/16 Q2: Workshops with relevant stakeholders and consolidation of inputs.

Key Milestones

2015/16 – Q1: Evaluation of the previous year’s take-up and the impact of the scheme with a view to its further development and fine-tuning.


Lead and supporting departments/agencies: the dti, IDC, DTPS, CSIR, SARS, ITAC, SABS and PICC.

3. Incorporation of Aerospace and Defence Industry Infrastructure into the Critical Infrastructure Programme (CIP)

The objective is to include the Aerospace and Defence Industry within the Critical Infrastructure Programme (CIP), by amending the guidelines and the definition of Critical Capital Infrastructure to include a Strategic National Aerospace and Defence Technical Infrastructure.

Economic Rational

The South African aerospace and defence industry is high-technology and is dependent on its niche capabilities to implement specialised solutions, provide tailor-made equipment, components, parts and services for unique environments.

To strengthen and develop these cutting-edge technical facilities, it needs the support of a strategic national aerospace and defence technical infrastructure and associated facilities. At present, there is no specific support mechanism within the dti’s suite of financial incentives and other instruments.

The facility should keep up with the industry’s evolving innovations and be able to issue safety and quality certificates that are internationally recognised. It should provide a base of capacity and capabilities including skills that can be strengthened and built on the existing global value chain.

Targeted outcomes

A strengthened defence aerospace industry supported by specialist services that strengthen aerospace manufacturing competitiveness and build up on the existing global value chain.

Key Milestones

2015/16 – Q1: Concept Document developed and drafting of the proposed amendments including the definition of “Critical Infrastructure”.

2015/16 – Q2: Incorporation of Aerospace and Defence Industry into the Critical Infrastructure Programme.

Lead department: the dti.

Supporting entities: The defence aerospace industry.

4. Localisation of radar systems

Nature and purpose of the intervention

South Africa, with its long coasts and island borders – coupled to the vast ocean areas that it is expected to manage under UN-mandated legislation – is heavily reliant on technologies able to provide the necessary surveillance over these areas. Radar is a technology with a well established base in South African industry. But it needs to be further nurtured if the state is to obtain the full benefit of maintaining the industry’s status as a leading international supplier of systems for both the industrial and security markets.

Targeted outcomes

Strongly sustained, strengthened and developed radar-based defence capabilities, characterised by deepened localisation (through designation) and associated supplier development.

Key Milestones

2015/16 – Q2: Collection of industry data.


2015/16 – Q4: Designation of the radar systems.

Lead and supporting departments/agencies: the dti.

Electro-technical industry

Support for Broadband Policy roll-out

South Africa has world class engineering facilities, an internationally accepted system of standards and testing, and a base of capacity and capabilities including skills that can be optimised for the electronics industry.

Supported by the dti and IDC, private investors have built the capability to produce a wide range of electronic products. These include set top boxes (already designated for local procurement), electrical and telecoms cables (designated), televisions (rebate on components for manufacturing of electronics products), and PICC.

The objective of this work will be to consider industrial policy interventions that can support and stimulate electronics manufacturing and assembly arising from the broadband roll-out programme.

Nature and purpose of the intervention

The current absence of tariffs on computer-related products (WTO agreement); To attract foreign direct investments into the industry; To develop local skills and technology; To leverage public procurement within the sector to support localisation; To promote exports and participation of the industry in large continental projects.

Constraints

• High volumes of imported-devices and components;
• High cost of technology and infrastructure investments [e.g. PC Board population machines];
• Lack of interest by telecommunications companies in buying local;
• The current absence of tariffs on computer-related products (GATT agreement);
• Poor regulatory environment, with influx of illegal imports;
• Poor compliance with standards and industry-compulsory specifications.

Key Action Programmes

1. Development an action plan to support Broadband roll-out

To attract and scale-up local electronics industry, leveraging on the potential of both broadband and e-learning platforms to raise aggregate demand.

Targeted outcomes

A institutional and scale-up local electronics industry, leveraging on the potential of both broadband and e-learning platforms to raise aggregate demand.

Improved competitiveness of local industry and increased employment.

Key Milestones

2015/16/ Q1: Support the industry in putting an application to ITAC for a rebate system on components for manufacturing of electronics products.

2015/16/ Q3: Develop an ICT-specific incentive package that supports manufacturing and incentivises telecommunication companies to buy local.

Lead and Supporting Departments/agencies: the dti; IDC, ETPS, CSIR, SABS, ITAC, SABS and PICC.
Introduction

South Africa has been a pioneer of metering solutions within the utilities industry since the 1880s. There is a well-developed domestic production capability within the electricity segment of the prepayment market. This technology has been transferred to applications within other areas of the utilities environment, and in this case specifically to residential and industrial electricity and water distribution and consumption.

With the increase of water shortages and wastage in the country it becomes critical that there are no billing costs, no credit management, and no arrears to be financed. As a result, there has been considerable growth in the number of domestic and foreign companies participating in the manufacturing of prepaid water meters.

Key Opportunities

Increasing the procurement of locally produced prepaid water meters, particularly at municipality level. In the light of increasing water shortages, the inbuilt control and conservation features of prepaid metering systems gain greater salience, allowing for the possible expansion of existing manufacturing facilities and of new entrants into the sector.

This will require:
- Investigating the capacity of local manufacturers to meet local demand over the next 3-5 years.
- Manufacturing at plants which could add prepaid water meters to existing product lines - e.g. production of dual (water and electricity) meters.
- Positioning SA for increased exports into other parts of Southern Africa.
- Reviewing duties on components and products and introducing a tariff on imported prepaid meters (WTO Bound Rate 10%).

Nature and purpose of the intervention

There has been considerable market development within the prepaid water meter industry. There are different costs (and benefits) associated with different customers and with the different uses of prepaid meters: public stand-pipe, individual household connections and institutional customers.

The research so far indicates that the introduction of pre-paid systems can be complex and costly, especially when quantifying all of the related costs (beyond the installation of the pre-paid meters) including the technical infrastructure for billing and loading credit, software development and IT integration, customer sensitisation, vendor commissions, spare parts and customer support.

Electricity segment of the prepayment market. This technology has been transferred to applications within other areas of the utilities environment, and in this case specifically to residential and industrial electricity and water distribution and consumption.

Water Metering Systems

Key constraints

Constraints affecting the competitiveness and therefore the growth of the industry include:
- The current high volume of imports;
- High input costs, specifically import prices of components;
- Stiff competition from low-cost imported products from the Asian market.

Key Action Programmes

1. Designate the Procurement of Water Metering System in terms of the PPPPA

The main objective is to designate the water metering system, which will provide a well-researched and structured approach to ensure that a minimum local content threshold will be applied in all state procurement tenders.

Targeted outcomes

- To take advantage of current public spending within the sub-sector by supporting locally produced QSMs - the main procurers being Eskom, municipalities and the military.
- To continue developing local technology and skills in this area.
- To create a suitable environment to attract new investments.

Key Constraints

- To attract enough economic benefit to become attractive to utilities, as there are no billing costs, no credit management, and no arrears to be financed. As a result, there has been considerable growth in the number of domestic and foreign companies participating in the manufacturing of prepaid water meters.
- To continue developing local technology and skills in this area.
- To create a suitable environment to attract new investments.

Limitations and constraints

Investigating the capacity of local manufacturers to meet local demand over the next 3-5 years.
- Manufacturing at plants which could add prepaid water meters to existing product lines - e.g. production of dual (water and electricity) meters.
- Positioning SA for increased exports into other parts of Southern Africa.
- Reviewing duties on components and products and introducing a tariff on imported prepaid meters (WTO Bound Rate 10%).
1. Designation of Electricity QSMs in terms of the PPPFA

Nature and purpose of the intervention

The objective of this work is to ensure that government leverages its own procurement of these products as the primary procurer within this sector.

Targeted outcomes

- Achievement of at least 40% local content in QSM manufacturing.
- Stimulation of increased local demand, with direct spin-offs into after-sales, repair and general maintenance and indirect spin-offs into sectors such as packaging and plastic moulding (cases for QSMs).
- Improved product quality and enhanced competitiveness in the sub-sector.

Key Milestones

2015/2016 Q1-Q4: To designate QSMs in terms of the PPPFA as amended in December 2011.

Lead departments: the dti and EDD.

Supporting departments/agencies: Eskom, Department of Energy, Municipalities.

Critical Support: Municipalities (Association of Municipal Electricity Utilities) and Eskom.

2. Local procurement of PCs and Tablets

Nature and purpose of the intervention

The intervention seeks to ensure that the state procures locally-assembled personal computers and at the same time promotes foreign direct investment (for assembling and manufacturing of components) to supply both South Africa and regional markets. It also proposes a review of the tariff structure in the smartphone industry to support local assembling and manufacturing.

Economic rationale

- To entice already existing OEMs (Hisense, LG, etc.) and other local investors to consider increasing production lines to locally produce other devices such as tablets and smart phones.
- To create a value proposition for OEMs such as Dell and HP (which previously had assembly plants in SA) to invest again in local assembly of their products.

Targeted outcome

A sustainable and growing market for local assemblers and contract manufacturers to supply government and other state-owned entities.

Milestones

2015/2016 Q2: Together with National Treasury, develop a methodology on strategic procurement of personal computers and tablets.

2015/2016 Q2-Q4: Through TISA, introduce a programme to attract investment in both local assembling and component manufacturing (PC boards and panels).

Lead departments: the dti, IT, DTPS and SITA.

1. IT Equipment

Business Monitor International (BMI) expects the South African IT market to grow from R 106 billion in 2014 to R 139 billion in 2017, while contributing around 3% to GDP. It also forecasts the growth of the hardware market from R 37.4 billion to R 47.7 billion over the same period. National Treasury estimates that a figure of around R 8 billion was spent on hardware by the state in 2013 (excluding State-Owned Entities). Given the lack of local content in personal computers, South African companies in the industry are only involved in semi-knock down operations, but they do have the capacity to meet both government and private sector specifications for the assembly of desktops, laptops and tablets.

Key opportunities

Government is committed to making use of ICT to deal with an array of socio-economic challenges in areas such as education (The “One Laptop per Teacher, One Tablet per Learner” project etc.) and health services (telemedicine, electronic patient records and management systems, etc.). The State and its entities are expected to continue spending on IT equipment for administration and day-to-day operations for the foreseeable future. The capability of both local PC assemblers and contract manufacturers to meet this demand presents an opportunity for the State to leverage on its procurement requirements to stimulate job creation in the sector.

Key constraints

- Lack of industry organisation – engagements with individual companies as opposed to an Industry Association.
- No import duties on computer related equipment, as per WTO rules.
- Lack of local content.
- Fierce global competition.
ABBREVIATIONS AND ACRONYMS

AAT                        Aerosud and Aerodyne Aviation Technology
ABC Aerial Bundled Conductor
ADEP Aquaculture Development and Enhancement Programme
AECMA Association of Electric Cable Manufacturers of South Africa
AIDC Automotive Industry Development Centre
AIDS Acquired Immune Deficiency Syndrome
AIS Automotive Investment Scheme
APDP Automotive Production and Development Programme
APDP Automotive Policy Development Plan
API Active Pharmaceutical Ingredients
ARSO African Organisation for Standardisation
ART Antiretroviral Treatment
ARV Anti-retroviral
ASCCI Automotive Supply Chain Competitiveness Improvement Initiative
ATF Aluminium Trifluoride
B-BBEE Broad Based Black Economic Empowerment
BC Broadway Complex
BRIDES Brazil’s Banco Nacional de Desenvolvimento Economico e Social
BTSA Bombertrans Spation-South Africa
BTX Benzene, Toluene and Xylene
CAGR Compound Annual growth rate
CAV Centrum Aerospace Village
CDD Coast Development Corporation
CDM Class Development Mechanism
CEF Central Energy Fund
CIACM Competitiveness Improvement of Automotive Component Manufactures
CIC Customer Innovation Centre
CIP Critical Infrastructure Programme
CMO Complete Knock Down
CMVRA Capability Maturity Model Integration
CMT Cut, Make and Trim
COM Centre of Competence
COMP Chamber of Mines
CONEXA Common Market for Eastern and Southern Africa
CPS Corrugated Seamless Aluminium
CREA Customer Relations Management
CRG Customer Risk Engine
CSPF Customised Sector Programme
CTS Concentrated Thermal Solar
CTCP Clothing and Textiles Competitiveness Programme
CTLF Clothing Textiles, Leather and Footwear
DAC Department of Arts and Culture
DAFF Development Bank of Southern Africa
DERS Desired Emission Reduction Outcomes
DFID Development Finance Institutions
DID Director General
DIPC Department of International Relations and Cooperation
DIP Industrial Development Policy
DMMR Department of Mineral Resources
DoC Department of Communications
DOD Department of Defence
DoE Department of Energy
DoH Department of Health
DHS Department of Higher Education and Training
DoI Department of Justice
DOL Department of Labour
DST Department of Science and Technology
DTH Direct to home television
DIT Digital Terrestrial Television
DWEA Department of Water and Environmental Affairs
EAC East African Community
EC Eastern Cape
EDC Export Credit Insurance Corporation
EE Energy Efficiency
ECC Ekurhuleni East College
EDD Economic Development Department
ENL Environment Impact Assessment
EPF Enterprise Investment Programme
EUKD East London IDZ
ERDI Export Marketing and Investment Assistance
ESRA Enterprise Reference Architecture
ETS Energy Systems Optimisation
ETSCM Electricity Supply Commission
EU European Union
EV Electric Vehicle
FAT Free Trade Area
FAIR First Automotive Works
FDI Foreign Direct Investment
FET Further Education and Training
FETA Forest Industries Education and Training Authority
FEC International Fair of Luanda Trade Exhibition
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