
GOVERNMENT NOTICES

DEPARTMENT OF COMMUNICATIONS

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GAZETTING OF THE SET-TOP BOX MANUFACTURING SECTOR DEVELOPMENT STRATEGY FOR SOUTH AFRICA

I, **Ms Dina Pule, Minister of Communications**, hereby gazette the Set-Top-Box Manufacturing Sector Development Strategy for South Africa (February 2012)

In July 2009, the Department gazetted the Draft Set Top Box Manufacturing Sector Development Strategy for public comment. The Department received comprehensive comments from the public which were analysed and taken into consideration.

The Department further had extensive engagements with both electronics manufacturing and broadcasting sectors in relation to the Strategy and promotion of local manufacturing and review of Digital Terrestrial (DTT) Standard.

The Set Top Box Manufacturing Sector Development Strategy for South Africa as approved by Cabinet in February 2012, is published in the government gazette and can be accessed on www.doc.gov.za

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DATE: 26.07.2012.

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Department:
Communications
REPUBLIC OF SOUTH AFRICA

**SET-TOP-BOX MANUFACTURING SECTOR
DEVELOPMENT STRATEGY FOR SOUTH AFRICA**

February 2012

Annexure 1

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1. INTRODUCTION

- 1.1. The South African television broadcasting services have been broadcasting by way of analogue technology since 1974. Following the rest of the World, South Africa took a decision to migrate television broadcasting from analogue to digital to make more efficient use of the available radio frequency spectrum, which is a scarce national resource.
- 1.2. Free to air terrestrial television represents the largest single broadcast platform worldwide. It supplies primary content to the majority of people worldwide. Despite the rise of the pay television (TV) industry, particularly in developed countries, to many consumers free terrestrial still represents the most affordable access to TV content, requiring a single payment for a receiver or license fee and no monthly subscription costs.
- 1.3. As digital switchover becomes more frequent globally, there has naturally been huge demand for DTT receivers. By the end of 2010 there were 364 million active digital terrestrial television (DTT) receivers worldwide, up from just 4 million in 2001. With the aggressive analogue switch off (ASO) dates being pursued by many countries, the majority of this growth has thus far occurred across Western Europe, US and Japan which, together accounted for 84 per cent of all active DTT receivers in 2010. Globally, the market for free DTT receivers will remain in good health over the next five to ten years. However, the DTT set-top box (STB) market will be more volatile, as more people adopt integrated digital televisions (iDTVs).
- 1.4. The migration is necessary due to the developments in telecommunications technologies and the international obligations for broadcasting digital migration. The International Telecommunications Union (ITU) held a Regional Radio Communication Conference (RRC-06) in Geneva in 2006. At the conference a

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Treaty dealing with among others digital migration of bands III, IV and V was concluded and South Africa became a signatory. The conference resolved that all countries of Europe, Africa, Middle East and the Islamic Republic of Iran should migrate from analogue to digital broadcasting services by 17 June 2015.

- 1.5. In August 2008, Government approved the Broadcasting Digital Migration (BDM) Policy. The BDM Policy provides for a framework within which digital migration should take place in the country. It also provides that before analogue switch-off, there will be a time where both analogue and digital signals will broadcast. Thus for TV owning households to receive the digital signal on their current analogue TV receivers, STBs, which convert the broadcasting digital signal to analogue, is required. Otherwise it will be necessary to acquire digital-enabled TV receivers.
- 1.6. The Broadcasting Digital Migration Policy provides that set-top-boxes will be sourced from local manufacturers.
- 1.7. The STB manufacturing sector development strategy focuses on those areas where South Africa has the necessary expertise to ensure the final assembly of STBs locally for domestic and export markets.
- 1.8. Therefore this section outlines the various areas of the value chain and roles of players in unlocking the potential for growing the sector.

2. OBJECTIVES OF THE STB MANUFACTURING STRATEGY

- 2.1. The Strategy seeks to achieve the following objectives:
 - 2.1.1. To increase the sector's contribution to the real economy, improving growth and facilitating job creation both directly and indirectly;

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- 2.2. To establish a STB manufacturing base to supply both the domestic and export markets;
- 2.3. Ensure that the local industry and government's investment is protected through the use of technical and non technical barriers to entry;
- 2.4. To facilitate investment into the upgrade and establishment of manufacturing operations in the domestic STB industry;
- 2.5. To bring about transformation in the electronics industry; and
- 2.6. To promote innovation and research and development.

3. SECTOR OVERVIEW

3.1. Industry structure and its performance

3.1.1. The South African electronics manufacturing sector is characterized by large, middle-sized and small manufacturers with primary focus on the assembling and manufacturing of electronics consumer products such as TV receivers, telecommunications equipment, and STBs for the pay television market. Most of these companies have been established within South Africa and they exhibit varying degrees of expertise. These manufacturers have strong engineering design capabilities particularly in software and systems development which is a critical element in the manufacturing of STBs. Some of the manufacturers already have established relationships with the retail market and have distribution networks, with easy access to outlets in the cities and towns throughout the country.

3.1.2. South Africa is a net importer of TV, radio and communications equipment. Table 1 demonstrates that, the value of exports increased from R1.7 billion to R2.0 billion in 2001 and 2009 respectively, with the highest increase recorded in 2007 where exports recorded R3.7 billion. With regards to imports; South Africa has experienced an increasing trend from R15.9 billion in 2001 to R23.5 billion in 2009. The biggest increase was recorded in 2007 where imports

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recorded R33 billion. The trade deficit presents an opportunity to increase the exports of these equipments to service especially the African market.

- 3.1.3. Total employment has declined from 12562 in 2001 to 7750 in 2009. This can be attributed to amongst others, manufacturers shifting away from complete known downs (CKD) to semi knock downs (SKD) operations. SKD is known to require less manual labour.
- 3.1.4. The gross domestic fixed investment declined sharply from R248 million in 2001 to R112 million in 2009. This can be attributed to amongst others to the inability of the local industry to compete with products from elsewhere in the world and the global economic down turn experienced in 2008.
- 3.1.5. With regard to tariff matters, there would be a need to look into the duties levied on materials and components used in the manufacture of STBs. Table 2 below depicts the tariff structure of the major dutiable components used in the manufacturing of set-top-boxes. There are six product types used for the manufacture of STBs which are not manufactured domestically and has to be imported from elsewhere in the world. In order to support the growth and development of the STB manufacturing industry it is proposed that government consider that these products do not attract duties. Due to the fact that the electronic industry is capital intensive and the fact that domestic electronic products have to compete with imported from other parts of the world. Such duties also increases production costs unnecessarily and thus a cost burden to the consumer of the final product produced.
- 3.1.6. The components comprise 20.18% of the total component cost. If the customs duty is rebated the Southern Africa Customs Union (SACU) product would be approximately 3% more competitive against international competition and would sell at the set selling price of the foreign competitor's product. Also, an anomaly existed in the sense that the components used in the manufacturing of

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STB's are dutiable under various ad valorem duties, whilst the final product, the STB, is free of duty. This anomaly does not encourage the domestic manufacture of the STB's. The rebate of the duty on the components used in the manufacture of STB's is intended to level the playing field.

- 3.1.7. The country's STB manufacturing industry is dominated by few manufacturers and they do not have the capacity to service the 11.5 million domestic STB market. Therefore interventions are required to ensure that there are more players in the market in order to satisfy the demand. This trend is also prevalent in the antennae manufacturing sector, where there are only two manufacturers.
- 3.1.8. Over and above the manufacturing of STBs, there are opportunities in the manufacturing of antenna. Research conducted by the Southern African Digital Broadcasting Association (SADIBA) on the South African transmission parameters indicated that TV households will need either an outdoor antenna or indoor active antenna to boost the picture quality. The manufacturing of antenna provides an opportunity for job creation within the value chain.
- 3.1.9. Initial assessment by the Department indicates that there are few manufacturers of antennae in South Africa. The strategy therefore calls for the sourcing of both outdoor and indoor antennae from local manufacturers. In line with the need to bring about new players, Government must support the availability of antennae to the five million TV owning households. Government will also choose the prospective antennae manufacturers to supply the five million subsidised TV owning households. The industry has the potential to produce more than 11.5 million antennae to service both the subsidised and non-subsidised market.
- 3.1.10. The STB industry is not transformed as it does not reflect the demographics of the country. There are no black owned STB manufacturers.

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3.1.11. Therefore building the local STB manufacturing capabilities will create a sustainable domestic electronic sector and international competitiveness; and also change the composition of ICT investment from low value added activities to intermediate and high-technology goods and services.

3.2. Conformance Authority for the STBs

3.2.1. All STBs must be tested and type approved by the Independent Communications Authority of South Africa (ICASA) and the South African Bureau of Standards (SABS) to minimize the risk of product failure. Currently there is no conformance authority that exists in South Africa and most of the STBs are tested outside the country. As part of providing support to the industry, it is important that a strong STB conformance regime is built in South Africa. Conformance is critical to secure the DTT platform and ensure that only conformant boxes are able to operate to avoid performance failure.

3.2.2. South Africa should build this capacity to ensure that STBs in the market conforms to the DTT standard. This also presents opportunity to also conduct STB conformance for the Southern African Development Community region as well as the servicing the African continent. This capability will have to be built within the SABS to conduct conformance to both subsidized and non-subsidized set-top-boxes.

3.3. Job creation opportunities

3.3.1. The distribution network and logistics that carries the STBs from the manufacturers up to the point of sale and to the end user create employment opportunities. The warehousing, logistics and courier sectors allow for significant participation by black owned companies and small, medium and micro enterprises.

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- 3.3.2. Sales of STBs to the end-users would be done through appointed service providers, retailers and enterprises. The objective is to ensure that end-users do not struggle to receive the products irrespective of their localities.
- 3.3.3. The project of digital migration magnitude and the roll of millions of set top boxes require a dedicated call centre to support consumer take up. As part of the communications and awareness campaign, a call centre to assist the consumers will be established.
- 3.3.4. The STB installations represent important aspect of the DTT roll out support system. The digital migration process is an ideal opportunity to bridge the digital divide and enable access to government information and services. The STB installations support affords all citizens especially the vulnerable groups to take up digital broadcasting without unnecessary inconveniences. The STB installations offer a great opportunity for local SMMEs. Manufacturers will have the responsibility of ensuring that STB installers are provided with the requisite skills. Accordingly a programme to capacitate youth with the necessary skills to repair set-top-boxes will be instituted.

4. IMPLEMENTATION OF THE STRATEGY

4.1. Increase the manufacturing base.

- 4.1.1. The manufacturing of STBs largely consists of assembling electronics components in accordance with the engineering designs, and manufacturing of enclosures. Thus maximizing the value in the manufacturing process ensures that many local manufacturers participate in the full manufacturing value chain. This will result in the improvement of capabilities for the manufacturing of specific electronic components.

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- 4.1.2. To stay cost-competitive, the domestic STB manufacturers have invested in capital-intensive production lines to mount and place chips surface mount technology assembly. The final assembly of the STB remains labour-intensive and provides opportunities for job creation.
- 4.1.3. An inclusive Government/Industry Partnership approach that envisages the participation of the existing and new local manufacturers be adopted. This partnership encourages the working together of the existing and new manufacturers in different areas especially in the sharing of Research and Development expertise and the intellectual property (IP). In this partnership government must support new entrants with start-up costs using the existing incentive programmes.
- 4.2. Enhance the competitiveness of the sector**
- 4.2.1. Although the sector will be competing with other products from elsewhere in the world, it is necessary that local manufacturers be supported to ensure that STBs are affordable to the majority of TV households.
- 4.2.2. With regard to the availability input material such as chip sets, for the production of STBs, South Africa does not have the capacity to support the sector. Therefore such chip sets will have to be imported from other countries such as China. The importation of such material carries ad valorem taxes of approximately 15%. In support of the growth and development of the local industry, the importation of chip sets should be exempted from import duties.
- 4.2.3. Since STBs imported from elsewhere in the world are duty free, an import duty should be levied on all STBs imported from elsewhere in the world.
- 4.3. Research and Development (R&D)**
- 4.3.1. The consumer demand for media rich home entertainment services is driving innovation and new revenue opportunities in the STB industry. The STB

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architectures are becoming more sophisticated through integration of new functions into the box.

- 4.3.2. This makes the production of STBs a highly technical process which requires continuous research and development (R&D) an embedded activity. Therefore, it is not possible to build a globally competitive STB industry without a dedicated R&D to drive innovation. The innovation and manufacturing of the cutting edge electronic products are the drivers of successful electronic consumer industries.
- 4.3.3. The promotion of R&D activities will create a conducive environment to enable the manufacturing of integrated digital TV receivers and other electronic consumer devices in the near future. The future is iDTV, where a digital tuner is built into a TV set. iDTV can receive digital broadcasts with no extra hardware required.
- 4.3.4. iDTVs do away with the need for a set top box to convert signals for reception on an analogue television receiver. They may also include support for other features of a digital television platform.
- 4.3.5. From the manufacturing perspective, it is therefore desirable that local manufacturers be encouraged to begin conducting research and development with a view of manufacturing iDTVs to meet the future local demand. The manufacturing of integrated television receivers is more complex than the manufacture of set top boxes and, consequently, the potential for job creation in the manufacture of integrated television receivers is greater than that for set top boxes. The skills required are also likely to differ.
- 4.3.6. The common critical feature for all the major global electronics companies is engineering design capabilities and intellectual property (IP) ownership. To this end the development of the local design capabilities of the STB engineering, architecture and its related applications present significant opportunities for

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building a local STB and related industry with export capabilities. This presents opportunities for further investment in local engineering design capabilities.

- 4.3.7. Some local companies have engineering design capabilities and own intellectual property thereof. In order to promote investment, innovation and excellence in the industry, locally developed IPs be supported for the manufacturing of subsidized set-top-boxes.

4.4. Build the STB conformance testing capabilities

- 4.4.1. South Africa must build conformance testing capabilities to ensure that STBs in the market conforms to the national STB standard. This presents opportunity to also conduct STB conformance for the Southern African Development Community region as well as the servicing the African region as a whole. This capability will have to be built within the South African Bureau of Standards (SABS) to conduct conformance to both subsidized and non-subsidized set-top-boxes. This would generate extra income to the national fiscus since all STBs and other electronic products from other parts of the African continent would be tested in South Africa. The conformance authority is the first in the African continent.

4.5. Use the existing incentives to grow the industry.

- 4.5.1. The fact that government is subsidizing 70% of the cost of the STB for five (5) million poor TV owning households serves as an incentive to encourage new players especially manufacturers owned by previously disadvantaged individuals, thereby transforming the industry.

4.6. Job Creation

- 4.6.1. Once all of the above are realised, the STB industry is expected to create 23500 direct and indirect jobs. These jobs are expected to come from the actual manufacturing of the STBs and antennae, installation of the STBs and
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antennae and the repair of the STBs. The call centre to be established as part of the consumer support would create employment opportunity to young people.

5. CONCLUSION

The successful implementation of the STB Manufacturing Strategy will lay a foundation for the long-term growth and development of the electronics sector in general. This will increase the sector's contribution to the Gross Domestic Product of the country. The Strategy is a call for the establishment of a partnership between government and industry to deliver a successful broadcasting digital migration in South Africa.

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APPENDIX A

Table 1: Indicators for TV, Radio and Communications sector, 2001-2009

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Export Value (R Mil)	1714	1903	2286	2539	2660	3180	3728	2771	2027
Import Value (R Mil)	15813	17465	15341	19688	25521	30697	33022	27348	23488
Total Employment (Formal & informal)	12562	10878	9453	8751	8941	9023	8295	7782	7750
Gross Domestic Fixed Investment (R Mil at 2005 prices)	248	222	158	148	221	296	292	259	112
Real Output (R Mil at 2005 prices)	5572	6373	6558	7164	7395	7563	7759	9205	8046

Source: Quantec

Table 2: Tariff structure of the major dutiable components

Tariff sub-heading	Description	Rate of duty			
		General	EU	EFTA	SADC
8504.31	Electric transformers	10%	3.8%	10%	Free
8504.50	Other electric inductors	5%	Free	Free	Free
8506.80.90	Other primary cells and primary batteries	20%	6%	15%	Free
8536.50.90	Other switches for switching electrical circuits.	5%	Free	Free	Free
8536.90.90	Other apparatus	5%	1.9%	3.8%	Free
8544.42	Other electrical conductors	15%	5.7%	11.3%	Free

Source: Commissioner for Customs and Excise, Pretoria