

BRIEFING ON THE DTIC'S ROLE IN FACILITATING, SUPPORTING AND COMMERCIALISING INDUSTRIAL RESEARCH AND DEVELOPMENT, INCLUDING THE SUPPORT PROGRAMME FOR INDUSTRIAL INNOVATION AND THE TECHNOLOGY AND HUMAN RESOURCES FOR INDUSTRY PROGRAMME; AND BRIEFING ON THE KEY OUTCOMES OF THE POLICY DIALOGUE ON INDUSTRIALISATION THROUGH INNOVATION

PRESENTATION TO THE PORTFOLIO COMMITTEE
ON TRADE, INDUSTRY AND COMPETITION

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the dtic

Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA

the dtic - together, growing the economy

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Presentation Overview

Introduction

the dtic's role in facilitating, supporting and commercialising industrial research and development in the various sectors, including SPII and THRIP

Key Outcomes of the Policy Dialogue in Industrialisation through Innovation

Conclusion

Introduction

- **the dtic** supports the development and commercialisation of technology and innovation in the economy through:
 - ✓ formulation of policies and strategies;
 - ✓ investment attraction; and
 - ✓ through incentives and support programmes of **the dtic** and its entities.
- In 2018, the DSTI and **the dtic** co-developed the National Technology Commercialisation Strategy (NTCS) with the intent of accelerating commercialisation of locally developed technologies within South Africa and in foreign markets.
- **the dtic's** Industrial Development Strategy also seeks to respond to a rapidly changing global and domestic economic landscape. It proposes a three-fold strategy of ***Decarbonisation, Digitalisation*** and ***Diversification*** referred to as the 3Ds.

the dtic's role in facilitating, supporting and commercialising industrial research and development in the various sectors

Strategic Sectors

Supporting industrial research and development in a manner that can leapfrog the economy towards a new technological frontier requires intentional focus on key sectors with a potential of significantly building technological and long-term industrial capabilities.

- Examples include: Pharmaceuticals/Medical Devices, Aerospace, Automotives, Defence, Chemicals and Digital Economy (e-commerce, software development), as identified in the IDS.
- These also have a potential of strengthening integration into global supply chains.
- The choice of Strategic Sectors:
 - ✓ strong ability to help the economy to follow a greener industrial development path (decarbonisation),
 - ✓ diversification of the economy through greater value addition,
 - ✓ stronger inclusion - participation by SMMEs, women and youth, rural and underdeveloped areas; and
 - ✓ provide a pathway that enables innovation and digital transformation at the back of strong digital infrastructure, digital skills and technology development.

Examples of Industrialisation and Innovation: Case Study

Aspen Production of Anaesthetics, Vaccines and Insulin

Capacity/Capability Investments: Continued investment of state of the art technology to manufacture and pack sterile injectables. Installation of high speed, automated isolator filling lines coupled with automated visual inspection and robot enabled packaging lines.

Technical transfer of complex products in order to assure supply to the African continent of essential medicines.

Transferred the production of liquid solution and lyophilised anaesthetic ampoules and vials for global supply (excluding the USA).

Completed the technical transfer of 2 complex conjugate vaccines (hexavalent and PCV). Products are under registration with expected continental supply via the Unicef / Gavi facilitated tenders.

Transferred the manufacture of insulin vials on a contract manufacturing contract. Commercialisation of the product by the Marketing Authorisation Holder has commenced.

Development of GLP1 cartridges and vials for global supply underway. Specialised pre-filled injectable pen equipment to be installed.

Localisation: To date Aspen has manufactured and supplied approximately millions of ampoules and vials of anaesthetics for local and export supply.

Sustainability: Completed the installation of a centralised ammonia cooling plant, solar power and battery storage under installation, biomass steam generation installed on site

BEE: Level 4

Total permanent employment SA Operations Gqeberha: ~ 1300

The DTIC have played a critical role in supporting the initial establishment of the facility through the 12i Tax incentive.



Examples of Industrialisation and Innovation: Case Study

Innovation driving pharmaceutical industrial development

Biovac Summary

- ✓ Biovac progressively advanced from vaccine packaging and distribution to developing capabilities across the vaccine value chain; including formulation and fill-finish manufacturing, drug substance development, clinical development and locally developed vaccine products.
- ✓ This demonstrates - strategic investment in science, technology and innovation can transform South Africa's pharmaceutical manufacturing capability and position the Country as a regional leader in vaccine production.
- ✓ Biovac invested in state-of-the-art manufacturing infrastructure, including aseptic filling lines, automated packaging systems, fermentation and purification technologies, molecular biology laboratories and ultra-cold storage facilities.

This evolution reflects a deliberate strategy of building domestic technological capability rather than relying solely on imported technologies.

Examples of Industrialisation and Innovation: Case Study...

Biovac...

Current Developments: Embedding frontier technologies such as **mRNA vaccine platforms, lipid nanoparticle (LNP) technology, DNA plasmid amplification, microfluidics** and advanced analytical capabilities. The company has also

Policy Lessons: Innovation as a Driver of Industrialisation:

Biovac showed how an integrated innovation ecosystem—linking government, research institutions, universities, financiers and industry—can convert technology transfer into local capability development, commercial manufacturing, export competitiveness and long-term industrial resilience.

BEE: Level 4

Total permanent employment: 421

Investment in end-to-end manufacture – R3bn (announced 25 May 2026)

the dtic has played a critical role in supporting vaccine manufacture through

Preferential Procurement: R53 billion awarded to supply locally made Hexaxim vaccine.

Innovation Outcomes

- Development of local vaccine manufacturing capability across the value chain
- Adoption of frontier technologies including mRNA and lipid nanoparticle platforms
- Significant investment in advanced manufacturing and R&D infrastructure
- Technology transfer translated into sustainable domestic industrial capability
- Enhanced export readiness and contribution to regional health security

Examples of Industrialisation and Innovation: Case Study...

Mobile Hydrogen Refuelling Station



- Toyota South Africa, together with DSTI and Hydrogen South Africa (HySA), have ***handed over a locally developed mobile hydrogen refuelling station*** to the North West University (NWU).
- The NWU refuelling station, developed by HySA Infrastructure in collaboration with TSAM, serves to support the advancement of hydrogen mobility, particularly for commercial transport applications.
- It also serves as a ***live demonstration*** platform for hydrogen fuel cell electric vehicle technologies, showcased through the Toyota Mirai passenger car.

the dtic's role in facilitating, supporting and commercialising industrial research and development in the various sectors...

the dtic's Innovation and Technology Incentives and Programmes

- ***The Technology and Human Resources for Industry Programme (THRIP)***: THRIP uses a triple helix model and is a Public-Private Partnership (PPP) programme, through which **the dtic** offers financial incentives for industry and academia/science councils to collaborate in finding technology solutions to the industry partner's challenges.
- ***The Support Programme for Industrial Innovation (SPII)***: SPII is designed to promote technology development in South Africa's industry, through the provision of financial assistance for the development of innovative products and/or processes. SPII is focused specifically on the development phase, which begins at the conclusion of basic research and ends at the point when a pre-production prototype has been produced.
- ***The Khoebo Innovation Promotion Programme (KIPP)***: KIPP seeks to introduce new and innovative technologies into the economy, by providing financial and non-financial support to early-stage innovative enterprises enabling them to commercialise their locally developed technologies.

THRIP SUPPORTED PROJECT



Location: Gauteng, Clayville, Olifansfontein

Research Institutions Partner(s): University of Limpopo (main), University of Pretoria and Tshwane University of Technology

Project Title: Recovery of raw materials Na_2CO_3 , NaHS , CaCO_3 and $\text{Ca}(\text{HS})_2$ from brines and solid wastes.

Sector: Water and Engineering

Researchers:	Students :	Patents :
2	6	2



Project team: Researchers and Industry leader



Students looking after Freeze crystallisation. Recovery of Na_2SO_4 through cooling.

Competitive Advantage and Commercialisation

- NSTF-South32 Winner: Best SMME in innovation and technology as well as impact on the knowledge economy **(2021)**.
- A-Thermal Retort Technologies (**their industry partner**). Used the technology to produce sodium sulphate from $\text{Na}_2\text{SO}_4/\text{NaCl}$ rich effluent. The existing cooling plant that is being upgraded to include freezing technology with the aim to recover not only sodium sulphate, but also ice and sodium chloride.
- **Local business:** Khwezela Colliery in Emalahleni (Anglo American) has appointed and partnered ROC Water (company) to upgrade their limestone handling and dosing system as well as the implementation of iron(II)-oxidation. CaSO_4 will be produced. A demo plant was designed and built at the mine site.
- **International business:** Keqiao Foreign Talent Park, Shaoxing, China, approved project for the treatment of highly saline effluents. They also had sites in both Botswana and Namibia.
- Technology Commercialisation and Intellectual Property (IP) Licensing globally.

THRIP SUPPORTED PROJECT...



Location: Western Cape, Bellville

Research Institutions Partner(s): Cape Peninsula University of Technology (CPUT)

Project Title: Green and Smart Materials for Affordable Diabetic Footwear (affordable footwear)

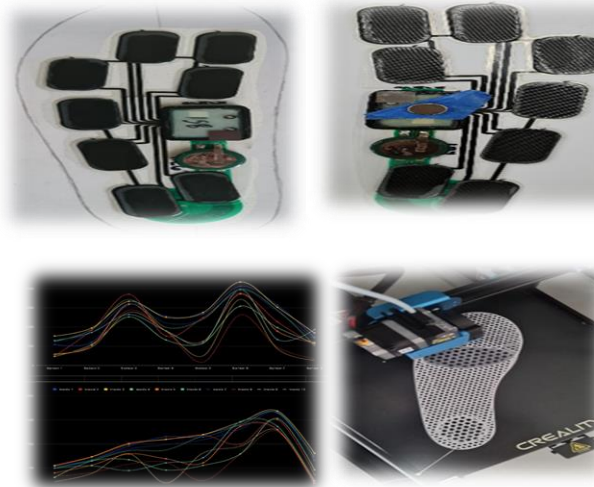
Sector: Clothing and Textiles

Researchers:	Students :	Patents :
3	11	1

Technological outputs and innovation

Development:

- new material from waste PET and hemp fibre
- 3D custom-printed insoles
- First stage insole sensor technology
- Product from new recycled materials



Data collection and analysis through sensor technology to inform the insole sensor design. (It takes patients' feet pressure and gives a holistic understanding of individuals' health.)

Competitive Advantage and Commercialisation

- The company (FIT) was an exhibitor at the Innovation Summit in 2019 where 3D-foot-scanning was demonstrated and 3D-printing of biodegradable insoles was also demonstrated.
- **Local business:** This new shoe material can be used or included for the manufacturing of sustainable shopping bags, which could result in job creation for the SMME. Also, materials can be used in automotive and construction sectors as sound/noise absorbers, filters for manufacturing industries, fibre-reinforced composite in automotive and aerospace applications, hygiene applications like sanitary pads made from sustainable material.
- **Commercialisation:** 30 pairs will be manufactured through contractor (as prototypes) to determine fitness, comfort and durability. Once satisfied, FIT will define optimisation and get market feedback for full scale manufacturing and supply.

THRIP SUPPORTED PROJECT - CHUMANI WATER SOLUTIONS

Project: Amazimba-BFF



CHUMANI
WATER SOLUTIONS

the dtic THRIP
Supported 90% of
the costs

Project Progress :
100%

Project Team :
Researchers , students
and industry leader

TECHNOLOGICAL OUTPUTS AND INNOVATION

- Amazimba-BFF : Beef production feed as alternative (less costly) to the current maize feed
- Increased meat quality with antioxidant, undesired aroma and flavour
- Neutral effect on animal growth performances (weight gain)

Location: Eastern Cape, East London (Umtiza Farm)

Research Institutions Partner(s): Agricultural Research Council (ARC) and Stellenbosch University (SU)

Project Title: Sorghum Grain as an Alternative Feed Resource for the South African Beef Cattle Production: Sorghum Beef Feed Formula (Amazimba-BFF)

Sector: Agro-processing

Researchers
3

Students
2

Patents
1



Sorghum Grain as a source
(less costly to grow/ produce
and less nutrient
requirements)



Steers (Bulls) growth and
reactions or weight gains,
Slaughtered and meat
quality analysis.



Meat shelving and aging &
color

COMPETITIVE ADVANTAGE AND COMMERCIALISATION

- **Local business:** Diversification on the current business activities.
- **Linkages with African Feed Manufacturing Association (AFMA)** for market entrance and partnerships or clients.
- **Licensing:** Obtain required licence from the Regulator, National Government (Agriculture) to manufacture and supply animal feed.
- **Commercialisation:** Currently filling a PATENT (Feed) and Trademark to t/a as Chumani Farmings. The plan is to move for a full scale manufacturing of the feed (Amazimba-BF) to supply local beef producers.

Putting drones on the mapping map

A black-owned SMME in Sandton, Gauteng, Afaero Flight Systems Africa (Pty) Ltd is putting the final touches, with SPII assistance, to its unmanned aerial vehicle, commonly known as a drone, to elevate data collection to new heights. Although developed with mapping and surveying applications in mind, the drone can inspect mines, ports, paper mills and oil, gas and power plants to ensure that these are fully operational and flag areas needing maintenance. Surveillance data will be supplied and emergencies assessed before human intervention.

The Afaero promise is a cost-effective technology that obtains real-time aerial data to improve operations. The drone will launch, fly and return to base without manual intervention, as flights will be scheduled through an easy-to-use app.

The prototype headed skywards on 17 May 2025 in what proved to be a successful test run. The designers' eyes are now on the device deployment station for remote use and system commercialisation.



FUNDING

Support Programme for Industrial Innovation (the dtic)



LOCATION

City of Johannesburg
Metropolitan
Municipality (Gauteng)



INDUSTRY

Digital technologies

OWNERSHIP

Black-owned SMME



Locking in the data-collection potential of taxis

Quickloc8 (Pty) Ltd, black-owned SMME based in Milnerton, Cape Town, would like nothing better than for every taxi on the road to be fitted with ultrawide screens – not to air the soccer game, but to collect data and provide an additional income source for drivers and owners.

Finance from SPII will facilitate the design of an artificial-intelligence system that will be placed inside and in front of a taxi. The concept will add value to Quickloc8's previous system containing patented cameras in taxis to count passengers, identify optimal routes and monitor commuter safety.

Generation two will incorporate algorithms that capture the location of the vehicle, eye-tracking and emotional responses of passengers in real time.



Mbahhalelo Mabogo showing where the proposed prototype will be in the taxi.

This information will then be analysed and sent to advertisers to better target their marketing campaigns. In its quest to turn taxis into intelligent, data-driven advertising platforms, the company was also assisted by NEF with working capital to acquire assets and stock.



FUNDING

Support Programme for Industrial Innovation (the dtic)



LOCATION

City of Cape Town
Metropolitan Municipality
(Western Cape)



INDUSTRY

Digital technologies

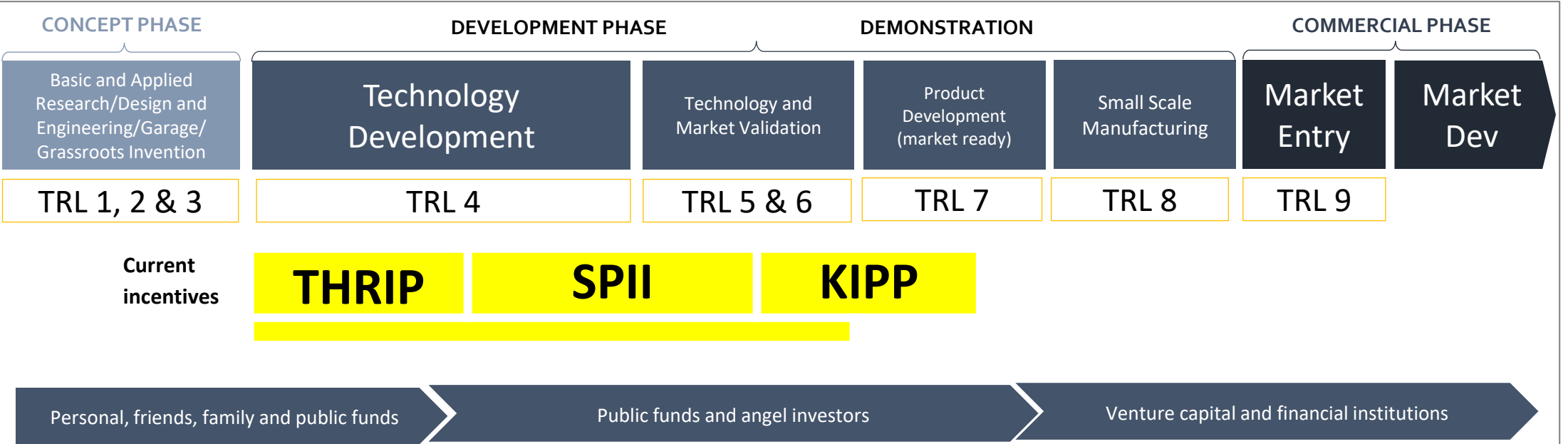


OWNERSHIP

Black-owned SMME



the dtic's incentives for technology development and commercialising industrial research



the dtic's programmes in supporting and commercialising industrial research

Knowledge Sharing and Awareness

- One of the Strategic Pillars of the National Technology Commercialisation Strategy (NTCS) talks to the dissemination of information. **the dtic** in partnership with the CIPC and National Intellectual Property Management Office (NIPMO), an agency of the DSTI, annually hosts the IP and Technology Commercialisation (TC) colloquium to promote knowledge on IP strategies, commercialisation mechanisms, opportunities and funding from Government.

Space Related Affairs

- **the dtic** Minister appointed the South African Council for Space Affairs (SACSA) in February 2026 to fulfil its regulatory responsibilities and the Council is operational. The Council is mandated to regulate all space affairs through guiding and licensing space activities, complying with the Country's international obligations and minimise any possible legal risks and potential state liability.
- The DSTI supports **the dtic** in the process of approval of the new draft legislation, namely, the South African Space Industry Regulatory draft Bill (SASIRA). This draft Bill will provide for the establishment/strengthening of the South African Space Regulatory Authority (SASRA), ensuring alignment between domestic and the Country's international obligations, in terms of space governance for peaceful purposes.
- The SASIRA draft Bill has been recommended to the Ministerial Cluster and Cabinet for endorsement of publication in the Government Gazette.

the dtic-TIA Cross-Border Commercialisation Programme

- **the dtic** and the Technology Innovation Agency (TIA) are exploring the development of a Cross-Border Technology Commercialisation Programme aimed at accelerating the internationalisation/exporting of South Africa's innovation and technology ecosystem.
- The initiative seeks to strengthen the commercial interface between innovation, industrial development and international trade by supporting the cross-border commercialisation of South African technologies, intellectual property, innovation-driven enterprises and technology-based solutions.
- The initiative also seeks to position South Africa as a source of competitive technology solutions capable of addressing developmental and industrial challenges across Africa and other strategic markets.
- It is expected to support the implementation of technology commercialisation strategy of **the dtic**/DSTI and take advantage of opportunities arising from the African Continental Free Trade Area (AfCFTA), strategic partnerships [e.g. European Union (EU) New Horizon] with developed and emerging economies.
- The initiative remains at a conceptual stage and requires further development and formalisation. This includes the establishment of an appropriate governance framework, implementation model and strategic partnerships.

Immediate Action Activities

Areas of Improvement for Greater Impact

- **the dtic** is in full support of better coordination of ST&I initiatives and funding across government as this will help reduce bottlenecks and provide a more seamless and effective support mechanism that can enable R&D projects to properly transition through all the Technology Readiness Levels (TRLs) until they reach commercialisation.
- **the dtic** also welcomes the ***Proposed Protocol Collaboration Agreement*** between the DSTI and **the dtic**. Such an agreement will help strengthen R&D/STI interventions and programmes undertaken by our two departments, build synergies on policy mandates and strategic objectives assigned to our departments and our respective entities, as well as to ensure that the two departments are able to leverage on each other in terms of resources, both human and financial, thus significantly advancing the Country's socio-economic trajectory through locally developed technology and innovation.

Key Outcomes of the Policy Dialogue in Industrialisation through innovation

- The National Advisory Council on Innovation (NACI), a unit within the DSTI, **the dtic**, and the OR Tambo Special Economic Zone (SEZ), hosted a Policy Dialogue on 18 - 19 June 2026 to explore how science, technology and innovation can drive re-industrialisation and inclusive growth.
- The Dialogue was structured in four thematic areas, which were intended to focus the discussions and produce specific recommendations in each area.

The thematic areas were as follows:

- ✓ Strategic Direction, Governance & System Coordination;
- ✓ Enabling Policy, Legal & Regulatory Environment;
- ✓ Pathways to Market, Demand Creation & Inclusive Growth; and
- ✓ Cross-Cutting Dimensions -
System Coherence, Implementation Effectiveness, Outcomes & Impact, and Transferability & Context Fit.

Key Outcomes of the Policy Dialogue in Industrialisation through innovation (cont..)

The outcome of the Dialogue was a Draft Call-to-Action by the DSTI and **the dtic** Ministers, which included the following:

- Jointly developing and implementing a National Strategic Framework for Innovation-Led Industrialisation.
- Strengthening Institutional Coordination and Joint Governance by establishing a permanent Ministerial Coordination Mechanism supported by DSTI, **the dtic** and NACI.
- Making Commercialisation and Industrial Scale-Up the National Priority by strengthening the national innovation-commercialisation pipeline.
- Mobilising Sustainable Financing Across the Innovation Lifecycle by developing an integrated innovation financing ecosystem.
- Strengthening Science and Innovation Parks, Special Economic Zones (SEZs), Industrial Parks, Science Councils and Innovation Hubs as integrated ecosystems.

Key Outcomes of the Policy Dialogue in Industrialisation through innovation (cont..)

- Strengthening Demand-Side Industrial Policy by expanding demand-driven industrial interventions.
- Coordinating investment into high-impact sectors and invest in strategic industrial value-chains.
- Building Skills for the Future Industrial Economy by strengthening collaboration between Government, Industry, Universities and TVET Colleges.
- Advancing Regional Industrialisation and African Competitiveness by leveraging the AfCFTA, Agenda 2063 and STISA 2034.
- Investing in shared strategic infrastructure.
- Strengthening Strategic Partnerships and Research Investment.

Conclusion

- **the dtic** is committed to supporting the development & commercialisation of technology and innovation in the economy, through investment attraction; various incentives; and support programmes of the Department and its entities.
- **the dtic** - DSTI Working Group's proposal during the Policy Dialogue Conference's Call-to-Action, which is to be led by the DGs, also needs to be prioritised.
- Selection of Strategic Priority Sectors for support
 - ✓ Build and Identify Value-chains for the priority sectors
 - ✓ Develop work programmes for each department; and
 - ✓ Allocate resources: personnel and financial for implementation

THANK YOU