

# AISI AT A GLANCE



Aerospace Industry Support Initiative

an initiative of **the dti**



**the dti**

Department:  
Trade and Industry  
REPUBLIC OF SOUTH AFRICA

**CSIR**  
*our future through science*



## ASI Vision and Mission

### **Vision**

Through the collective leadership of government and industry, upgrade, propel and position the South African aerospace industry to be firmly integrated as part of global supply chains.

### **Mission**

- To enhance the global competitiveness of the South African aerospace industry.
- To provide an institutional platform to facilitate partnerships and innovation between government, industry and academia.
- To identify, develop, support and promote the interests and capabilities of the South African aerospace industry.
- To accelerate the achievement of government's strategic objectives, including growth, employment and equity.

## Key facts

- South Africa has the largest aerospace industry in Africa.
- The South African government is very active in the aerospace sector and is contributing positively to local content, partnerships, growth and job creation.
- South Africa has over 40 years' experience in aerospace R&D, manufacturing and testing.
- South Africa is home to approximately 140 companies in the defence and civilian aerospace sectors.
- The country has active partnerships with international Original Equipment Manufacturers such as Airbus, SAAB, Boeing, BAE Systems, Turbomeca Africa and Astrium, amongst others.
- The AISI actively works with government, academia and industry to ensure growth in this significant industry.

The Aerospace Industry Support Initiative (AISI) is an initiative of the South African Department of Trade and Industry (**the dti**), which has been managed and hosted by the Council for Scientific and Industrial Research (CSIR) for the past eight years.

As an industry support mechanism, the AISI has three strategic objectives:

- Industry transformation
- Job creation
- Industrialisation of technologies.

The goal of the AISI is to assist in integrating the South African aerospace and defence industry into the global supply chain.

Underlying the AISI's programmes is the recognition that SMME development and BBBEE/transformation-focused projects (specifically industrialisation of technologies) are a prerequisite for successfully supporting the national imperatives. A strong focus on industry development and technology support for new and existing industry development is achieved through strategic investment in key technologies and strategic partnerships, technology platforms and the utilisation of national experts and facilities, located at the CSIR. Economic benefits and related impact include job creation, job retention, skills development, transformation, cost savings, technology localisation and improved technology offerings. This is in line with government key objectives and national development imperatives. An additional strong focus is supplier development with derived economic benefits of competitiveness improvement, productivity improvement, improved lead times, improved quality, cost savings, compliance to environmental standards, improved delivery performance, increased customer satisfaction, and job creation and retention.





# Impact Summary

The Aerospace Industry Support Initiative's (AISI's) strategy is guided by the Department of Trade and Industry's (**the dti's**) vision of "A dynamic industrial, globally competitive South African economy, characterised by inclusive growth and development, decent employment and equity, built on the full potential of all citizens". As an initiative of **the dti**, the AISI has a strong focus on achieving impact and addressing **the dti's** vision through its investments in the aerospace and defence industry.

Investments in industry are directed through the AISI's operating programmes. The programmes are developed with the specific aim of ensuring investment in appropriate areas for optimum impact in achieving key objectives, such as industrialisation, transformation and job creation. The areas of investment for the AISI over the 2012/2013 financial period were:

1. New Industry Development and Technology Support
2. Supplier Development
3. Space Regulation and Human Capital Development
4. Sector Strategic Support Initiatives
5. Co-ordination, Promotion and Awareness.<sup>1</sup>

## AISI Estimated Impact at a Glance 2012/2013<sup>2</sup>

Industry support investment	R21 million
Number of projects undertaken	34
Number of organisations benefitting from AISI projects <sup>3</sup>	169
Number of SMMEs benefitting from AISI projects	96
<b>Resulting Impact on Industry</b>	
Jobs created/retained	104
Capacity development	57 students involved 16 AISI-funded interns 63 trainees through AISI projects

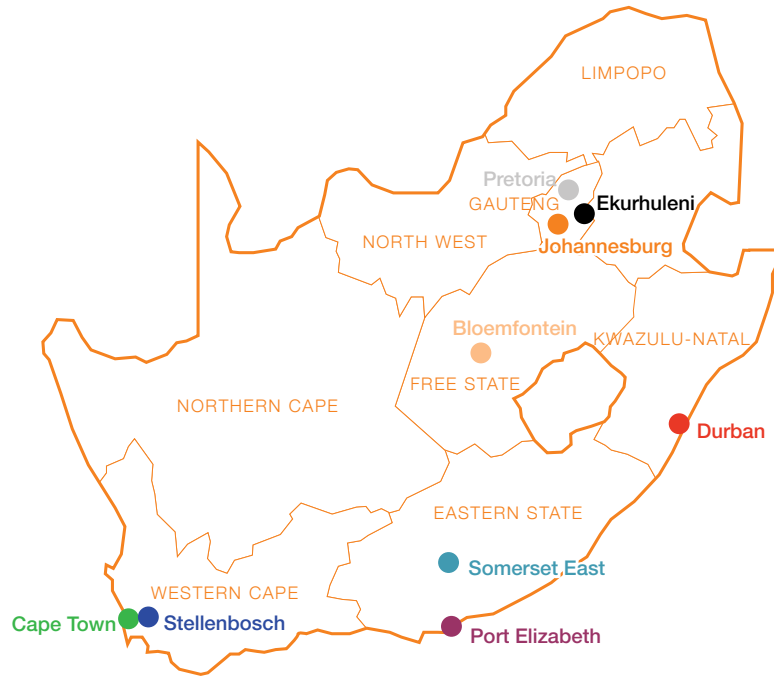
<sup>1</sup> A sixth area of investment, namely industry and impact studies, was identified; however, no investment was made towards the programme, as per an AISI management committee decision.

<sup>2</sup> Impact information derived from data submitted by benefitting organisations.

<sup>3</sup> Numbers based on organisations benefitting from AISI support, per initiative.



The figure below is an illustrative representation of organisations benefitting from the AISI's value offering, and maps their geographic location. The predominant locations of the industry benefitting from AISI support are in the Gauteng and Western Cape provinces.



Organisation Name	Location	Organisation Name	Location	Organisation Name	Location
Central University of Technology	●	Aerospace Training Academy of South Africa Pty (Ltd)	●	Aerosud Aviation (Pty) Ltd	●
Aerotechnic (Pty) Ltd	●	Albetron Precision Engineering	●	Aerosud ITC	●
BaxMod Models	●	Aquajet Profiles	●	African NDT Centre (Pty) Ltd	●
Cape Peninsula University of Technology (F'SATI)	●	DW Industrial	●	Business Enterprises at the University of Pretoria (Pty) Ltd	●
Daliff Precision Engineering	●	Heyns Laboratories	●	CSIR	●
Litson and Associates	●	HMR High Tech Machine Tools (Pty) Ltd	●	Lefa Engineering and Security Services	●
Robin Coss Aviation (Pty) Ltd	●	Lelebotse Projects and Engineering	●	Marksman Trainer (Pty) Ltd	●
TITamed (Pty) Ltd	●	M Square Precision Manufacturing	●	Megapack	●
University of Cape Town	●	MARCOM Aeronautics and Space (Pty) Ltd	●	Rosslyn Sandblasting & Engineering	●
Veccraft Marine (Pty) Ltd	●	MCC Aviation	●	Rost Engineering	●
Adept Airmotive	●	Megaray Limited	●	SAAB Grintek Defence	●
African Astronautics (Pty) Ltd	●	National Aerospace Centre	●	Sondor Industries	●
Advanced Material Technology	●	Northern Bolt and Tool	●	<b>the dti</b>	●
Aero Services (Pty) Ltd	●	Pamodzi Aviation	●	Tony Beverley Agencies	●
Aerotechnic (Pty) Ltd	●	Radio Tracker	●	Tshwane University of Technology	●
Applied Services	●	Safety First	●	University of Pretoria	●
Avex	●	SRS Aviation	●	Blue Crane Development Agency	●
Cliffsway Engineering (Pty) Ltd	●	Tiffany Safety	●	Space Advisory Company	●
Compumach Engineering CC	●	University of Witwatersrand	●	Stellenbosch University	●
ISCAR South Africa (Pty) Ltd	●	Wesco	●	Sunspace and Information Systems	●
Jackpack Trading CC	●	West Engineering	●		
PPG Coatings South Africa (Pty) Ltd	●	Collaborative Xchange	●		
Rheinmetall Denel Munition	●				
Safomar Industrial Brands	●				
TP Agencies	●				
Turbomeca Africa	●				
Thorax	●				

According to the Aerospace Sector Development Plan (ASDP), the aerospace market segmentation is intended to serve as a reference framework and is aligned with international market data available. The segmentation model is aligned with international market data and is well suited to graphically represent and interpret the local spending patterns and focus areas. It is designed to address three common sector perspectives, namely:

- Military and civil aerospace
- Aerospace product-centric view of the sector
- Technology stream-centric view of the sector.

Utilising the market segmentation framework of the ASDP, the AISI investments in strategic sectors, as defined in the ASDP, is mapped in the diagram below. As a result of the AISI being an initiative of **the dti**, and **the dti's** role in creating a fair regulatory environment for South African industry, an additional technology stream has been added, namely 'Policy and Strategy'. According to the ASDP, South Africa has one significant product stream, namely aeronautics services. AISI investment over the past financial period reflects this capability with noteworthy investment in this product stream. AISI investments in industry are defined in three categories:

- Technology Advancement Support: This entails industrialisation support to industry
- Competitiveness Improvement Support: This is achieved through interventions that improve the efficiency and effectiveness of the local industry
- AISI Organisational Support: Through the creation of enabling mechanisms, the AISI assisted industry through the creation of platforms to improve its operating environment.

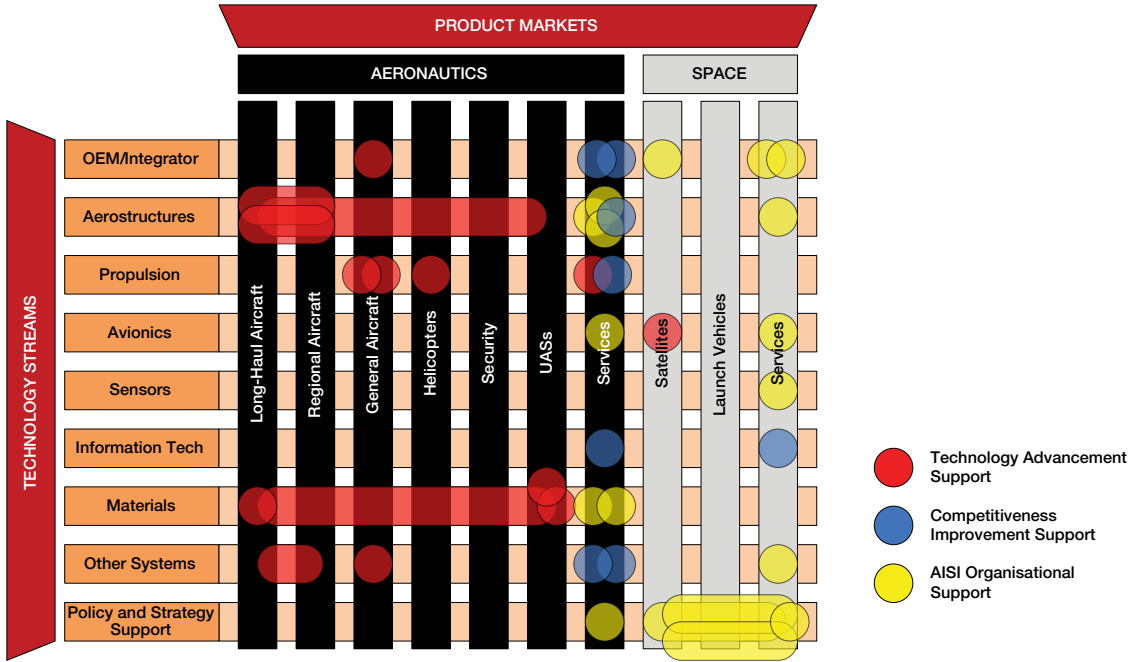


Figure 1: AISI investment areas 2012/2013 according to the ASDP Product and Technology Matrix

The figure highlights two main technology streams in which the AISI has invested through technology advancement support during 2012/2013, namely aerostructures and materials. This is building on already existing local capability and has cross-cutting application possibilities across numerous product markets. This ensures broader market possibilities for local industry.





### New Industry Development and Technology Support

The main objective of the first programme is to ensure industrialisation of technologies for industry, which would not have been achieved if it were not for AISI support.

Service providers are encouraged to include partner organisations when undertaking industrialisation projects supported through the AISI, and specific emphasis is placed on small, medium and micro enterprise (SMME) inclusion to ensure technology transfer, industry development and transformation. This programme achieved the highest percentage investment of the AISI totalling 44% of programme budget. This is as a result of a drive by the AISI since 2011, to improve on its investment in technology advancement as a means to develop the local industry.

<b>Programme focus</b>	Technology advancement support
<b>Predominant technology stream</b>	Aerostructures and materials
<b>Industry support investment</b>	R9 million
<b>% AISI investment of programme budget</b>	44%
<b>Number of projects undertaken</b>	15
<b>Number of organisations involved</b>	39
<b>SMME involved</b>	16
<b>Resulting Impact on Industry</b>	
<b>Jobs created/retained</b>	41
<b>Capacity development</b>	19 students
<b>Business opportunity</b>	2 local sub-tier suppliers benefitted from technology transfer from local Original Equipment Manufacturer (OEM)
<b>Efficiency and profitable</b>	9 laser-based manufacturing processes introduced to industry
<b>Export opportunity</b>	2 technologies industrialised for export readiness
<b>Industry access to national experts and facilities</b>	22 organisations directly benefitting
<b>Project aligned to national programmes</b>	1 project aligned to Titanium Centre of Competence
<b>Knowledge transferred to industry</b>	2 industry guidelines published
<b>Strategic Interventions established</b>	1 national steering committee established and resourced

#### Testimonial

“ADEPT Airmotive has been fortunate to receive project support from **the dti**, through the AISI. The AISI has facilitated and funded critical technical support in areas in which ADEPT does not yet have in-house resources, facilitating access to national facilities and experts, enabling improved competitiveness. Through this support, ADEPT has made use of advanced Non-Destructive Testing processes in its foundry activities and the National Laser Centre at the Council for Scientific and Industrial Research (CSIR) for laser welding. The AISI is also assisting with the testing and verification of components as part of ADEPT’s certification programme.”

– Richard Schulz, Managing Director: Adept Airmotive



## Supplier Development

The improvement of organisational efficiency and effectiveness is the focus of supplier development interventions. This ensures that organisations' competitiveness improves and enables them to integrate into global supply chains.

<b>Programme focus</b>	Competitiveness improvement support
<b>Predominant product stream</b>	Services
<b>Industry support investment</b>	R3 million
<b>% AISI investment of programme budget</b>	14%
<b>Number of projects undertaken</b>	12
<b>Number of organisations involved</b>	55
<b>SMME involved</b>	40
<b>Resulting Impact on Industry</b>	
<b>Jobs created/retained</b>	53
<b>Transformation</b>	Average increase of 22% in staff transformation at three SMMEs Cost saving at one OEM of R906 000 per annum
<b>Energy savings</b>	Energy saving of 20% at one SMME per annum 1.6 GWh saving per annum at one OEM
<b>Efficiency and profitable</b>	10 quality management systems implemented at five SMMEs Web-based procurement portal utilised by 33 suppliers and one OEM, improving efficiency
<b>Capacity development</b>	45 staff members of SMME trained in quality management system

### Testimonial

"Through our involvement with the AISI, Daliff Precision Engineering has received the necessary support to rebuild and expand our business. AISI supplier development support has enabled Daliff to meet the requirements of international OEMs, as well as the certification specifications which enables Daliff to become globally competitive. This support has ensured that Daliff has a solid platform from which it can expand into additional industries, such as directly supplying to the medical industry. Daliff has been involved with the AISI and its value offerings since 2008, and this has added to the sustainability and expansion of our business, which in turn ensured economic impact in the Western Cape."

– Rowland Chute, Chairman: Daliff Precision Engineering







### Space Regulation and Human Capital Development

One of the strategic objectives of **the dti** is to “create a fair regulatory environment that enables investment, trade and enterprise development in an equitable and socially responsible manner”. In support of this, the AISI focuses on space regulation, space regulation human capital development, as well as human capital development of already graduated individuals.

<b>Programme focus</b>	AISI organisational support
<b>Predominant technology stream</b>	Policy and strategy support and services product stream
<b>Industry support investment</b>	R4 million
<b>% AISI investment of programme budget</b>	18%
<b>Number of projects undertaken</b>	6
<b>Number of organisations involved</b>	39
<b>SMME involved</b>	16
<b>Resulting Impact on Industry</b>	
<b>Jobs created/retained</b>	10
<b>Capacity development</b>	16 interns 18 trainees in air-, space- and telecommunications law 16 students in capacity building in space law 22 studentships supported through NAC at four universities
<b>Scarce skills development</b>	Satellite systems engineering Space law
<b>Transformation</b>	68% of students are previously disadvantaged individuals (PDIs) 56% of interns are PDIs

#### Testimonial

“The French South African Institute of Technology (F’SATI) at Cape Peninsula University of Technology (CPUT) is very proud of its relationship with AISI, which has been fostered over the past three years. Having established an applied research-focused programme in nano-satellite engineering, F’SATI has systematically broadened its activities to include professional development of our graduates through an internship programme. With generous support from AISI, this programme has not only prepared our engineers-in-training for the local space industry, and established an advanced manufacturing capability, but has also developed a wide range of CubeSat communications systems that is being sold internationally through strategic partnerships. The AISI furthermore supports our prestigious Space Industry Seminar series, which provides a unique, shared national platform for academia, government and industry. Our relationship with the AISI is clearly a text book case for the benefit that can be derived for the aerospace industry from such support programmes. We extend our gratitude to the management of AISI for sharing our vision and enabling us to be an effective and productive contributor to the national space industry, now and in future.”

– Robert van Zyl, Director: F’SATI, CPUT



### Sector Strategic Support Initiatives

The AISI creates platforms for industry, specifically SMMEs, to interact and liaise with stakeholders which, unless facilitated by the AISI, they would not have had access to. By hosting an AISI-branded pavilion at the 2012 Africa Aerospace and Defence Show 2012 (AAD 2012), the AISI made it possible for 24 South African SMMEs to engage with local and overseas players in the aerospace industry. The AISI stand also supported participation by eight South African universities that have active aerospace research programmes. **The dti** exhibited its offerings on the pavilion as did two **the dti**-funded aerospace initiatives – the National Aerospace Centre and the Centurion Aerospace Village, bringing the total number of participating organisations to 36.

<b>Programme focus</b>	AISI organisational support
<b>Predominant product stream</b>	Services
<b>Industry support investment</b>	R4 million
<b>% AISI investment of programme budget</b>	18%
<b>Number of projects undertaken</b>	1
<b>Number of organisations involved</b>	36
<b>SMME involved</b>	24
<b>Resulting Impact on Industry</b>	
<b>Business opportunity</b>	Local organisations utilised the AISI platform to gain exposure to national and international business opportunities

#### Testimonial

“Without the tremendous support received through AISI’s initiative, it would not have been possible for Robin Coss Aviation to attend AAD 2012 as an exhibitor.

Having a very visible presence on the AISI pavilion made it possible for the company to engage with potential customers and strengthen business relationships with existing clients.

I want to compliment the entire AISI Management Team on the tremendous effort and support provided in making AAD 2012 a highly successful event and a platform to promote local aviation manufacturing capabilities to the world market.”

– Rob Cook, Business Development Manager: Robin Coss Aviation



### Co-ordination, Promotion and Awareness

Through a range of activities, the AISI co-ordinates and promotes awareness of activities in the South African aerospace and space domain. The AISI pavilion at the 63<sup>rd</sup> International Astronautical Congress (IAC) was aimed at sustaining a South African presence in the global space and aerospace community. It provided a platform for senior South African representatives and delegates from some five other South African organisations active in the space and aerospace domain to interact and network with peer organisations. Contributions to established print and online publication, media interaction and outreach activities contribute to a sustained level of awareness of AISI opportunities and the outcomes of its investments.

Programme focus	AISI organisational support
Predominant product stream	Services for aerospace and space
Industry support investment	R1 million
% AISI investment of programme budget	6%
Number of projects undertaken	4

#### Testimonial

"I would like to express my sincere thanks and appreciation for the manner in which the AISI, an initiative of **the dti**, created an opportunity for the South African National Space Agency (SANSA) to also be part of the national presence at the International Astronautical Congress in Naples, Italy. The approach of a national presence at this type of event was indeed the way to go; not only was the pavilion well suited to the needs of the country as a whole, but the AISI officials present did a great job of acting in our interests. This was hugely appreciated, especially in consideration of the fact that the intensity of the various sessions and International Accreditation Forum (IAF) meetings that were held during the event did not allow for SANSA officials at the pavilion at all times."

– Francois Denner, Space Programme Manager: SANSA

Through its operating programmes, the AISI reaches a range of stakeholders, including relevant industry, academia and government departments. In addition, the AISI and the National Aerospace Centre (NAC) have aligned operations to function as the Integrated **the dti** Aerospace Programme (IDAP), to ensure maximum impact and relevance in South African industry.

The remainder of the document contains a full list of projects undertaken through the AISI programmes. The information was submitted by the service providers undertaking the projects, and the impact achieved for industry, was derived from this information.







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