



Aerospace Industry Support Initiative

an initiative of **the dti**

# Impact at a glance

2018/19



**the dti**

Department:  
Trade and Industry  
REPUBLIC OF SOUTH AFRICA

**CSIR**  
*our future through science*

An Initiative of the Department of Trade and Industry, managed and hosted by the CSIR

# Impact and Benefits

13

New or advanced manufacturing processes



16

Technology developments or advancements



31

SMMEs supported (direct and indirect)



54

People trained

18

Jobs created

150

Jobs retained



6

Export capacity achieved

4

Import substitution achieved



Facilitated access to national infrastructure – number of academic institutions and science councils involved

8



# How the AISI implemented its mandate in 2018/19

The Department of Trade and Industry, through its Advanced Manufacturing Chief Directorate, established the Aerospace Industry Support Initiative (AISI) to support the South African aerospace and defence industries to improve its competitiveness.

## AISI's programmes

- Technology Based Supplier Development;
- Industry Development and Technology Support;
- Sector Strategic Support Initiatives; and
- Coordination, Promotion and Awareness.

Capability building

Import replacement

## AISI's budget

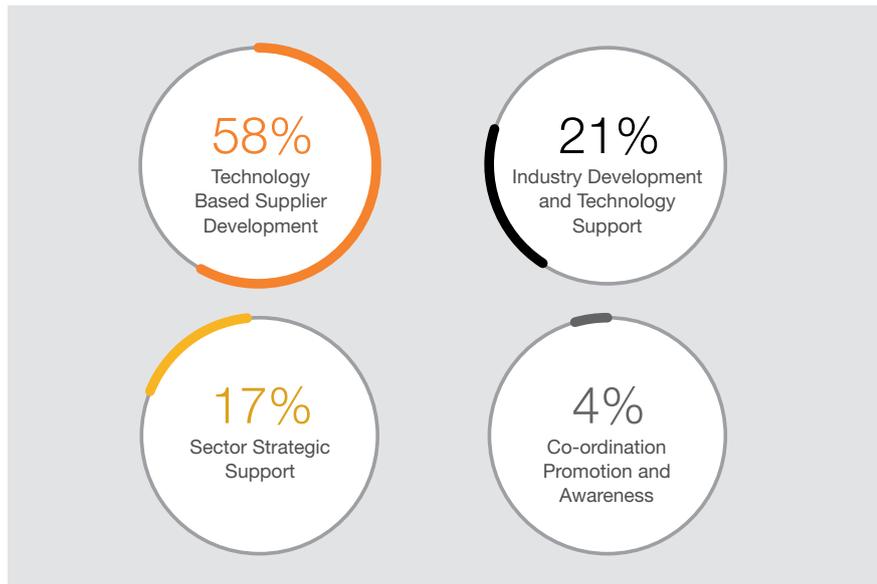


Figure 1: AISI budget breakdown by programme



# Technology Based Supplier Development

Transforming the aerospace and defence-related industry by enabling SMMEs to productively participate in the South African economy and globally.

With a strategic focus on Small, Medium and Micro Enterprises (SMMEs), the AISI aims to transform the industry to broaden the economic base of the country. The AISI achieves this through implementing enabling mechanisms to assist the industry in improving its competitiveness, productivity and quality management systems. This allows for optimisation of operations and procedures to ensure that the South African aerospace and defence-related industries are able to integrate into global supply chains.

## AISI interventions

- Technology Enhancement
  - Technology Transfer and Validation
- Standards and Accreditation
- Supply Chain Optimisation

Positioning South African aerospace and defence-related organisations as global leaders

## Activities and Impact in 2018/19

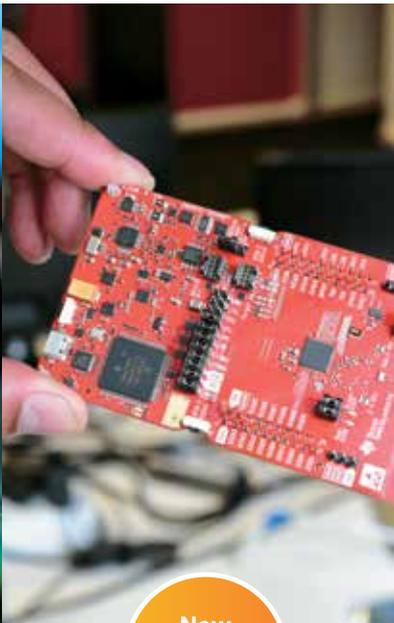
	<b>Programme Focus</b>	Technology Enhancement, Standards and Accreditation, Supply Chain Optimisation
	<b>Predominant technology stream</b>	Aerostructures, materials and manufacturing, and avionic/sensors
	<b>% AISI investment of project budget</b>	<b>58%</b>
	<b>Number of projects undertaken</b>	<b>16</b>
	<b>SMMEs supported directly and indirectly</b>	<b>20</b>

## Resulting impact on industry

	<b>Technology development /advancement</b>	<b>8</b>
	<b>Manufacturing process</b>	<b>9</b>
	<b>Number of jobs created or retained</b>	<b>150</b>
	<b>Facilitated access to national infrastructure – number of academic institutions and science councils involved</b>	<b>5</b>



New processing methods



New component design



Local market niche



## Technology roadmapping

Technology roadmapping is a critical technology management tool the AISI uses to identify sustainable projects that fit into the benefiting companies' strategies and technology plans. It also provides the companies, especially SMMEs, with a tool for them to communicate their technology plans in the short, medium and long term. This assists SMMEs with long-term technology planning and prevents over-reliance on a small number of customers. Identification of relevant technologies and new markets during technology roadmapping can help with diversification of SMMEs' customer base. The AISI uses this tool to build longer term partnerships with industry, and it has also enhanced the AISI's understanding of the capabilities and gaps within the industry.

## AISI outcomes for 2018/19

8

Technology roadmapping workshops with SMMEs

7

Projects identified and supported

Positive feedback from beneficiaries

# Industry Development and Technology Support

Supplier innovation drives production innovation to secure longer-term strategic agreements for supply and differentiation in products

The aerospace industry continues to demand lighter, more compact, more durable and more efficient products. Original equipment manufacturers (OEMs) and SMMEs therefore take cognisance of, and implement innovative technologies and manufacturing processes being developed in the global aerospace industry to reap benefits.



## Activities and Impact in 2018/19

	<b>Programme Focus</b>	Industry Development and Technology Support
	<b>Predominant technology stream</b>	Materials and manufacturing and avionic/sensors
	<b>% AISI investment of project budget</b>	<b>21%</b>
	<b>Number of projects undertaken</b>	<b>9</b>
	<b>SMMEs supported directly and indirectly</b>	<b>11</b>

Resulting impact on industry		
	<b>Technology development /advancement</b>	<b>8</b>
	<b>Manufacturing process</b>	<b>4</b>
	<b>Number of jobs created or retained</b>	<b>18</b>
	<b>Facilitated access to national infrastructure – number of academic institutions and science councils involved</b>	<b>3</b>

# Projects Supported

Organisation Name	Project Description
<b>ADEPT Manufacturing</b>	<ul style="list-style-type: none"> <li>Award-winning aviation engine enters initial manufacturing phase</li> </ul>
<b>Aerosud Aviation</b>	<ul style="list-style-type: none"> <li>Overcoming distortion problems in slender parts production through residual stress distribution</li> <li>Strategic investment in equipment and software platform for polymer aerospace components</li> </ul>
<b>Cape Aerospace Technologies</b>	<ul style="list-style-type: none"> <li>Made in South Africa: Jet engines in micro and small sizes</li> </ul>
<b>Cybicom Atlas Defence (CAD)</b>	<ul style="list-style-type: none"> <li>Simulated firefighting training for helicopter pilots upgraded</li> </ul>
<b>Daliff Precision Engineering</b>	<ul style="list-style-type: none"> <li>Improved advanced machining processes result in SMME productivity gains</li> </ul>
<b>Denel Aeronautics</b>	<ul style="list-style-type: none"> <li>Local capacity building in additive manufacturing of aluminium aerospace parts</li> <li>Identifying defects in aerospace composites using infrared thermography</li> <li>Using laser technology to correct distortion in aerospace components</li> </ul>
<b>Jonker Sailplanes</b>	<ul style="list-style-type: none"> <li>Jonker Sailplanes: Getting back to best in class</li> <li>Locally produced winders for in-flight wing cleaning systems of sailplanes</li> </ul>
<b>Kutleng Dynamic Electronic Systems</b>	<ul style="list-style-type: none"> <li>SmartCAM system offers wide range of applications</li> </ul>
<b>LambdaG</b>	<ul style="list-style-type: none"> <li>Improving antenna design for space communication</li> </ul>
<b>Lantern Engineering</b>	<ul style="list-style-type: none"> <li>Ramping up local capability for radio and video processing technology</li> </ul>
<b>NewSpace Systems</b>	<ul style="list-style-type: none"> <li>Novel device for satellite attitude control under development</li> <li>Novel attitude control gyroscope available for satellites</li> </ul>
<b>OnTrack Technologies</b>	<ul style="list-style-type: none"> <li>Localising production of sailplane canopies</li> </ul>
<b>Proceptworks</b>	<ul style="list-style-type: none"> <li>Sentian: Introducing a new locally made UAV</li> </ul>
<b>Space Advisory Company</b>	<ul style="list-style-type: none"> <li>Next generation technology for spacecraft power systems</li> </ul>
<b>TraX Interconnect</b>	<ul style="list-style-type: none"> <li>Enhanced manufacturing for multilayer printed circuit boards</li> <li>Advanced adhesion technology introduced for high frequency printed circuit boards production</li> </ul>

More detailed information on the AISI impact achieved in 2018/19 can be found in the AISI Impact Report 2018/19

# AISI Vision

To position South African aerospace and defence-related industry as a global leader, in niche areas, whilst ensuring effective interdepartmental participation and collaboration.

# AISI Mission

To enhance the global competitiveness of the South African aerospace and defence industry by:

- Developing relevant industry focused capabilities and facilitating associated transfer of technology to industry
- Providing a platform for facilitating partnerships and collaboration amongst government, industry and academia, locally and internationally
- Identifying, developing, supporting and promoting the interests and capabilities of the South African aerospace and defence industry
- Accelerating the achievement of government strategic objectives including growth, employment and equity

