

AeroAfrica-EU

South African Partner Profiling

For FP7-AAT-2011

ETNA Brokerage



Vibrant University Landscape

- **12 Universities active in aerospace related research**
 - Stellenbosch, Cape Town, Witwatersrand, Kwazulu Natal
 - Cape Peninsula, Tshwane, Limpopo, Durban
 - Pretoria, Johannesburg, Central, Nelson Mandela Metro
- **Research and human capital development in the following areas**
 - Autonomous systems (guidance and control)
 - Wind tunnel testing
 - Advanced manufacturing
 - Machining, rapid prototyping
 - Advanced modelling (Process, CFD, FEA, materials,...)
 - Aeroelasticity, aerodynamics
 - New materials
 - Light metals, titanium, superalloys
 - Green composites, CFRP
 - Intelligent composites



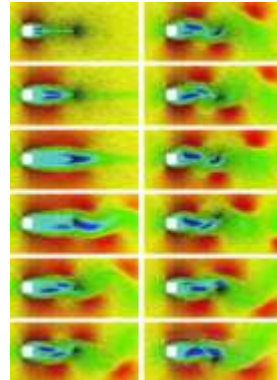
CSIR Substantial Aeronautical capability

- Aeronautics

- Aerodynamic design, characterisation, test & evaluation
- Numerical fluid modeling and
- Aerostructures (Flutter, flight testing)

- Sensors

- Multispectral camera
- Electro-optical systems
- Radar systems
- Sonar systems



- Structures

- Smart structures & materials
- Composite design

- Modeling and simulation

- Subsystems, systems level

- Engine technology

- Engine lifeing
- Turbine analysis

- Unmanned aircraft systems



- Light metals R&D

- Ti powder
- Al alloys



- Advanced Manufacturing

- Component refurbishment and repair
- Cladding
- Laser Engineered Net-Shape Manufacturing
 - Fully dense structures directly from CAD
 - Near Net Shape
 - Fully functional components



CSIR

our future through science

South African interest areas	FP7-AAT-2011
Area	Potential participants
Unmanned / Autonomous Systems – control, sense, avoid, certification, etc...	Denel Dynamics, CSIR, ATE, Stellenbosch University (ESL / SUN / COX)
Green technologies”, renewable energies depainting, cleaning	SDI Lasers, NLC, renewable energies
Radars & Systems	Reutech Radar Systems, CSIR
Aero-elasticity, advanced modelling, aerodynamics	CSIR, ESL, Wits University
Advanced / Direct manufacture	CUT, Aerosud, CSIR
Aerospace materials – titanium, superalloys, CFRP, natural fibres, etc with NDI	Aerosud, CUT, SUN, KZN, NACoE – AMPM, SDI Lasers, NLC
Satellite comms and antennas	Cobham Satcom, others
Health & Usage Monitoring, avionics	SAAB Avitronics, ANSYS

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