

# Spatial Planning: A measure component for Growth and Development Strategies

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*Tshwane Growth and Development Summit*





# CONTENT

- CSIR Mandate
- Summit Goals: City Growth Targets
- Use of Space Technologies as a response tool to service delivery
- Spatial Planning as a measurement component
- South Africa in Space
- CSIR's contribution

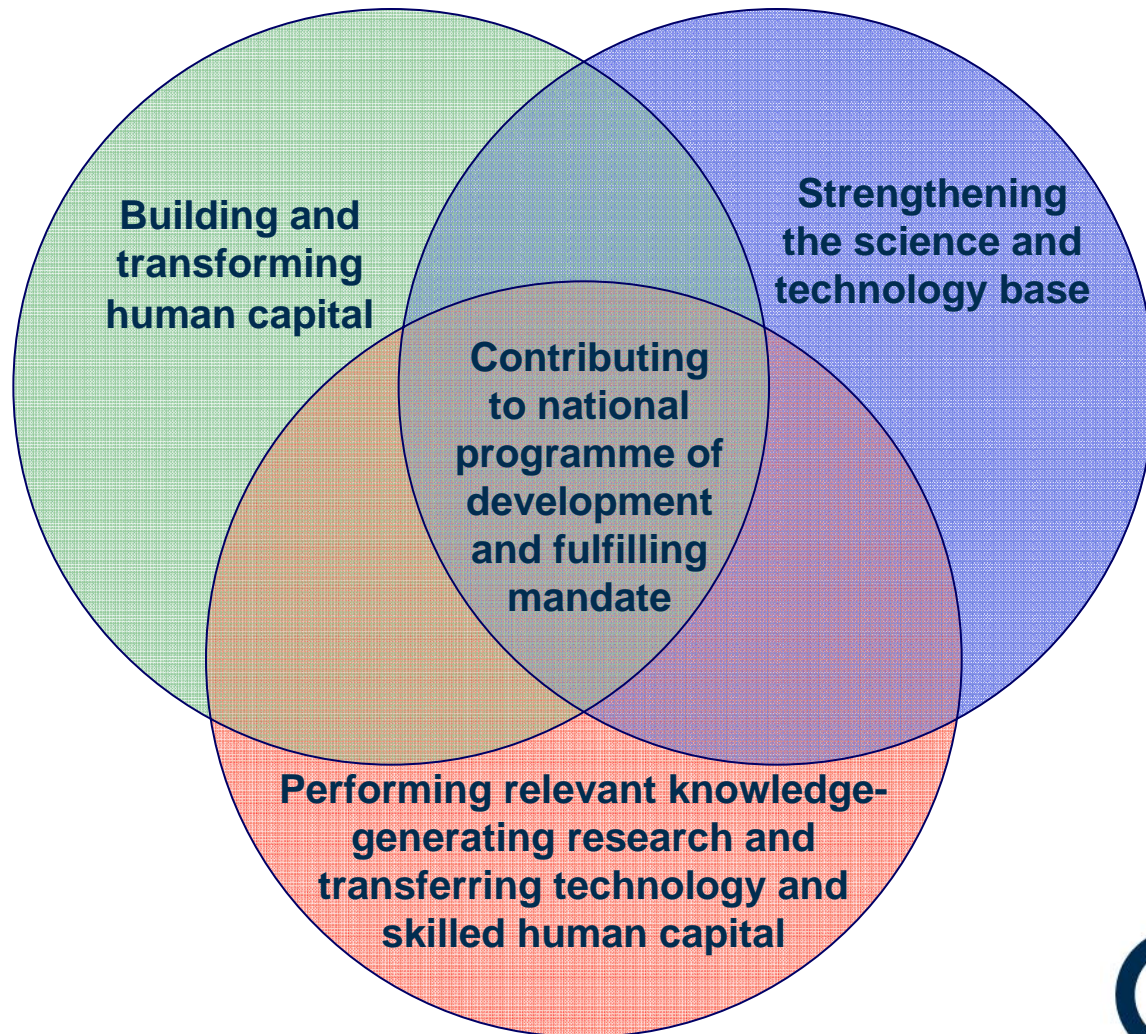


# The CSIR Mandate

“The objects of the CSIR are, through directed and particularly multidisciplinary research and technological innovation, to foster, in the national interest and in fields which in its opinion should receive preference, industrial and scientific development, either by itself or in co-operation with principals from the private or public sectors, and thereby to contribute to the improvement of the quality of life of the people of the Republic, and to perform any other functions that may be assigned to the CSIR by or under this Act.”

(Scientific Research Council Act 46 of 1988,  
amended by Act 71 of 1990)

# Focus of the CSIR into the future





## Setting the Scene

*Given the diversity of cities, there is no universally applicable best practice for the implementation of a city development strategy. Each city needs to identify and recognise its own opportunities and problems, which may vary considerably according to its location, level of economic, social, and institutional development, and many other factors.*

*Use of Space technologies as the most efficient and effective tool to monitor and track service delivery i.e. in a form of visual aid...*



# Tshwane summit goals

## City Growth Targets

- Contribution to the National and Provincial growth rates of 6% and 8% respectively.
- Establishment of cooperatives in the following areas:
  - Trade and Industrial development
  - Infrastructure
  - Human Capital development
  - Science and Technology & ICT
  - 2010 and beyond
  - Spatial Development
  - Partnerships
  - Tourism
  - SMME



- Development and implementation of an Integrated Transport Strategy
  - eradication of traffic congestions et al
- Establishment of commercial centres at all the Inter – Modal Facilities to add economic value.
- Development of a comprehensive Land use Plan to stimulate social and economic integration, growth and development inclusive of the Integrated Development Framework for the North.



## Use of Space Technologies in response to the plan:

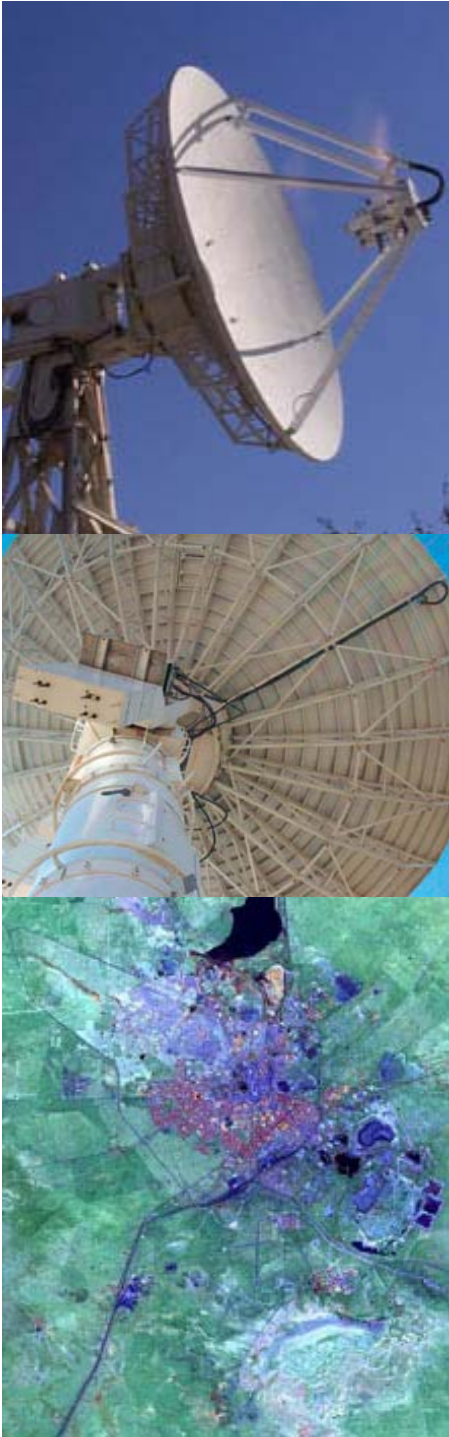
- Monitoring environmental conditions
- Continuous observation of various and monitoring
- Conduct trend analysis and predict the future.
- Will realise positive outcomes in:
  - Develop new industries – this will contribute to Tshwane’s economic growth;
  - Promotion of partnership with Science Councils et al;
  - Grow S&T skills in the area;
  - Plan as a collective and minimise duplications and costs;
  - Effective utilisation of the current ICT infrastructure.



## Cont.

- Contributes to decision making on:
  - Land distribution and management
  - Disaster management plans
  - Water resource management
  - City, urban and rural planning
  - Agriculture land management and monitoring;
  - Mapping changes;

*Development of a visual aid to monitor service delivery plans will serve as a good evaluation platform for Tshwane.*

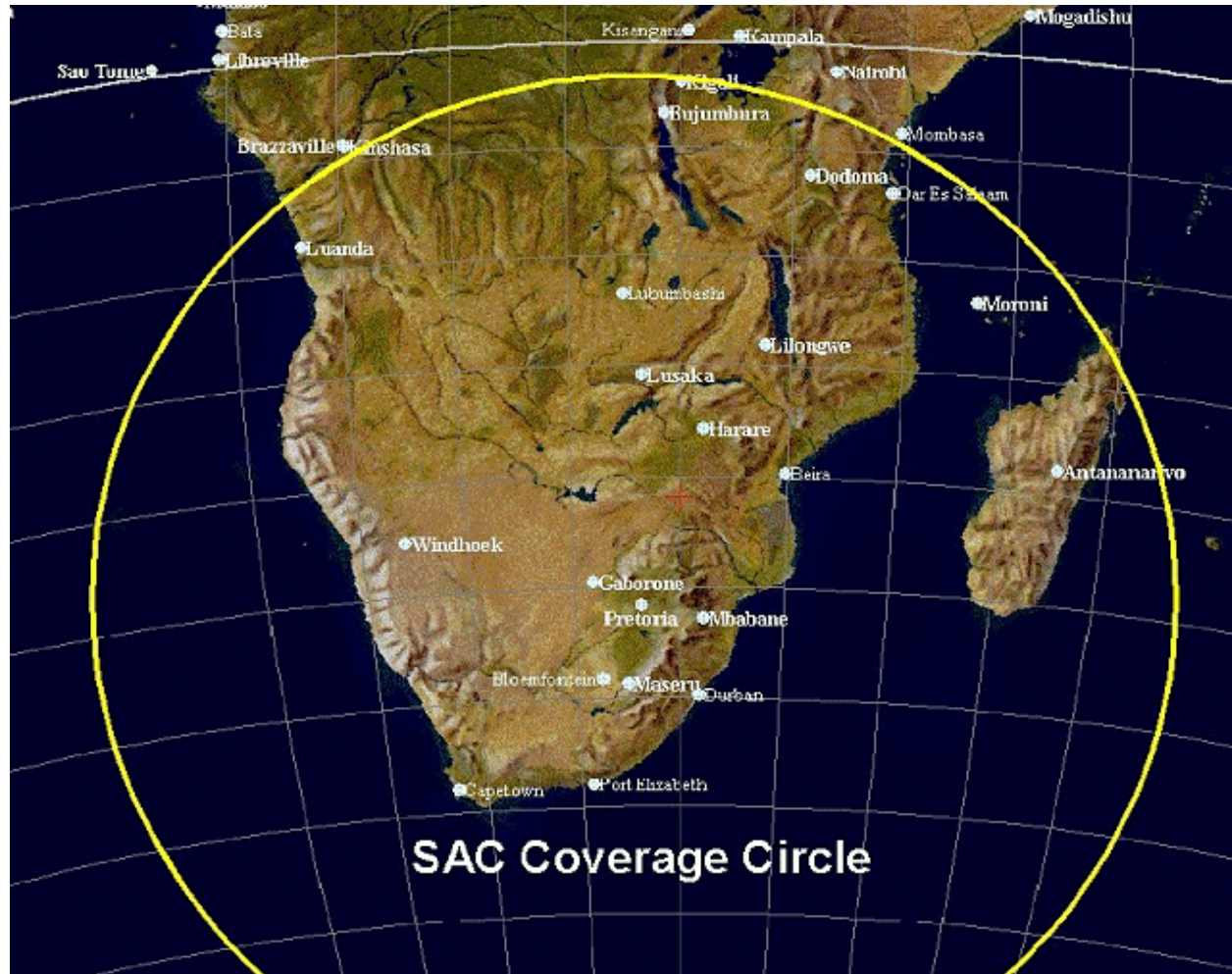


# Do we have facilities in SA to support such a programme?

- CSIR Satellite Applications Centre
  - Disseminate low and medium-resolution satellite data via various media and ensure archiving of earth observation data that are in public domain, free of charge. Telemetry, tracking and command services for satellite support.

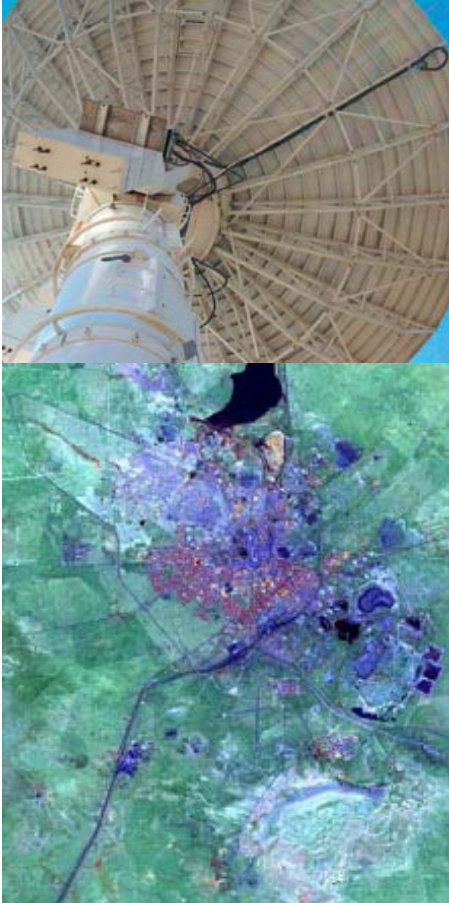


# Coverage footprint from CSIR SAC



# OTB SATELLITE GROUND STATION COMPLEX

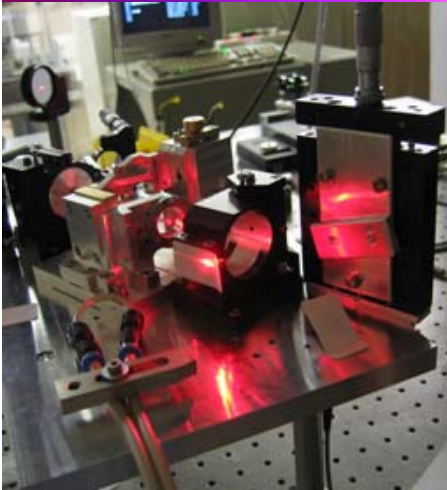
Overberg is one of the districts in the Western Cape. The Overberg Toets Baan (Overberg Test Range) is a DENEL facility with flight testing, missile testing, satellite launch and tracking sites.





## OTB Coverage Footprint





# “The Plan”: Spatial Planning: A measure component for Growth and Development

- To achieve a more balanced development along with a better quality of life for everyone, vibrant urban and rural areas and a better environment.
- Include activities to promote economic growth, which is environmentally and socially sustainable:
  - City and Spatial Development
    - apartheid era.
  - Economic and Social coherent
    - development patters
  - Sustainable Development
    - LED's
  - Innovative City regions
    - tax systems, property rights, etc.
  - City Planning and Integration
    - territorial perspective



## Cont.

- Spatial planning goes beyond traditional land use planning to bring together and integrate policies for the development and use of land with other policies and programmes which influence the nature of places and how they function.
- Spatial planning refers to the methods used by the public sector to influence the distribution of people and activities in spaces of various scales. This includes urban (urban planning), regional (regional planning), national and international levels.

# Spatial Planning guidelines

*NSDP, 2006*

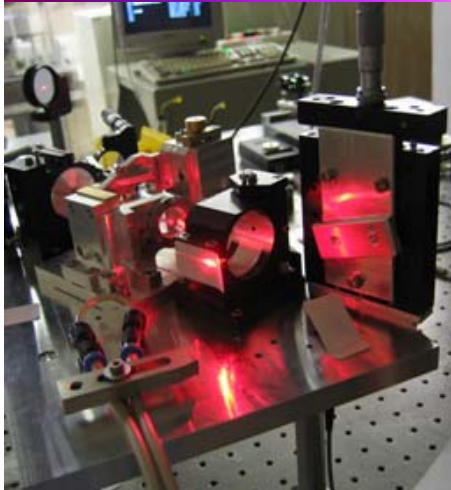


- International theory shows that spatial inequality is a product of growth and the dynamic qualities of areas are developed historically and culturally over a long period of time:
- Given our objective to grow the economy, create jobs, address poverty and promote social cohesion, Spatial planning will assist Tshwane in confronting three fundamental planning questions:
  - Where should the City direct its investment and development initiatives?
  - What kinds of spatial forms and arrangements are more conducive to the achievements of City objectives?
  - How can the City maintain consistency in decision making, strategic co-ordination and alignment?

# Cont.



- Spatial Planning principles could therefore be used as measurement tool to:
  - Co-ordinate City, National government action and alignment
  - Provide base for interpreting strategic direction
  - Maximize social and economic impact of spending.



# Spatial Planning: Urban Plan

- Visual observation for monitoring change.

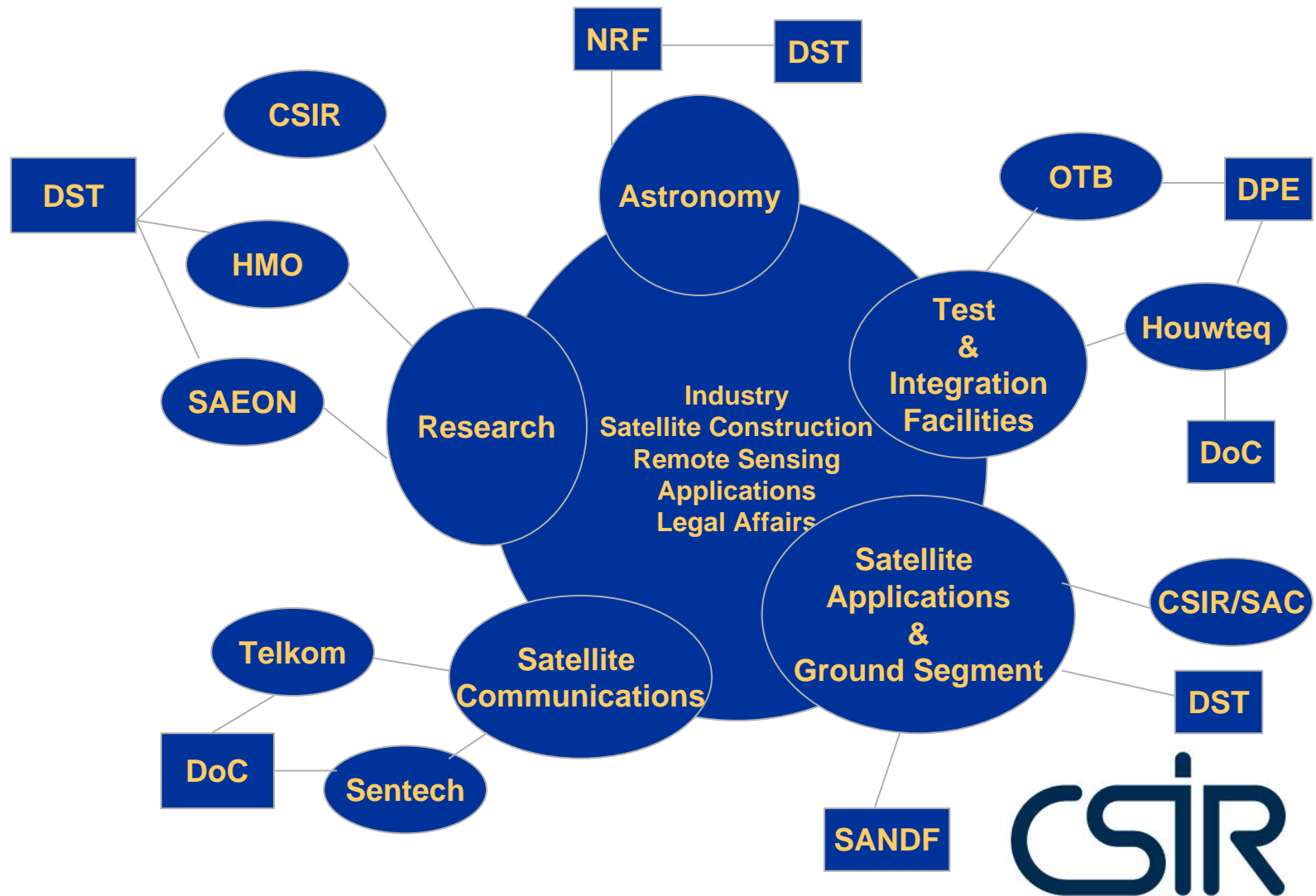


# Cape Town



# Is South Africa ready?

## Current Space Landscape





## Next Steps

- Development of the National Space Policy and Strategy led by Department of Trade and Industry.
- Establishment of the South Africa Space Agency (SASA) led by Department of Science and Technology (Cabinet approved decision):
  - Co-ordinate all space activities;
  - Develop a long term space programme.
- Launch of the South African Micro satellite in December 2006 from the Federation State of Russia.



# Potential contributions by CSIR:

## MERAKA Institute

### **Core focus:**

Facilitate national economic and social development through human capital development; application innovation (taking existing research and realising societal benefits through more applied R&D) and advanced research in selected technology domains relevant to local context, in cooperation with tertiary education institutions



# CSIR Built Environment

**Core focus:** Support South Africa's competitive performance and welfare through development of efficient and globally competitive built environment system; appropriate and efficient components and relevant technologies to support, through R&D, technological innovation and selected specialised value-added services

## Competence areas

- Integrated planning and delivery systems
- Infrastructure engineering
- Construction
- Facilities planning, design and operation
- Infrastructure systems and operations
- Centre for Logistics



## CSIR Built Environment (continued)

Emerging science themes (e.g. Cities of the future, Advanced geomatics & Urban/rural ecology) and strategic initiatives (e.g. Rural infrastructure) draw on all six competency areas



Houses number of agency-type functions on behalf of government and in support of industry:  
Agrément South Africa, Asphalt Academy, Technology Transfer Centre





# CSIR Natural Resources and the Environment

**Core focus:** Conduct world-class, directed interdisciplinary research and technological innovation, with partners and stakeholders, in fields of natural resources and the environment to contribute to social, economic and environmental improvement of South Africa and Africa.

## Competence areas

- Mining
- Forestry resource optimisation
- Pollution and waste
- Water resources
- Resource-based sustainable development
- Ecosystems



# CSIR Materials Science and Manufacturing

**Core focus:** Conduct leading research and innovation, with partners and stakeholders, in materials and manufacturing in support of competitiveness of industry, national human resource development, and improved quality of life.

## Competence areas

- Metals and metals processes
- Polymers, ceramics and composites
- Fibres and textiles
- Manufacturing science and technology
- Energy and processes
- Sensor science and technology



# CSIR Materials Science and Manufacturing (continued)

Hosts number of agency-type functions on behalf of government and in support of industry:

National Technology Transfer Centre, National Cleaner Production Centre, Advanced Manufacturing Technology Strategy



Thank you



**CSIR**  
*our future through science*