



CSIR SAC

Satellite Application Centre

The South African Space Science Arena

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SAC from a bird's eye view



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- Applications of Satellite Technology
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Open Ended Questions

- Why do we need a ground station?
- How much does it cost the CSIR to run such a facility?
- Who are the typical customers?
- What type of skills are required?
- What projects is SAC involved in?
- What are the current risks associated with the station?
- Is SAC ready to support the ZASAT programme?
- Who are your competitors?
- From where do you source technology?

Applications of Satellite Technology

- Telecommunications
 - Earth station gateways
 - Very small aperture terminals (VSAT)
 - Mobile satellite telephony
 - Air traffic augmentation system
- Broadcasting
 - Signal distribution
 - Satellite TV
- Earth Observation
 - Remote sensing
 - Disaster Management
 - *Surveillance*

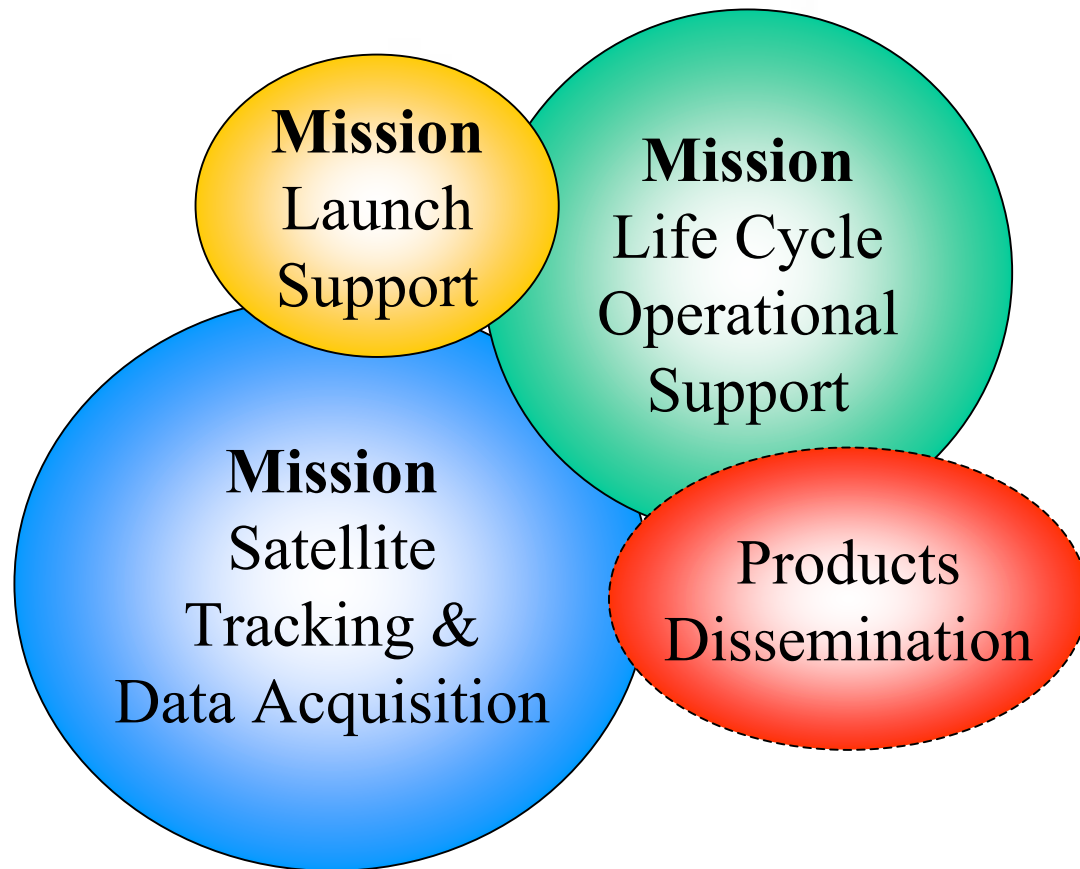
Applications of Satellite Technology (ctd)

- Navigations
 - GPS
 - GLONASS
 - GALILEO
- Astronomy
 - NASA Deep Space Area Network (DSAN)
- Satellite launch supports and life cycle services
 - C band
 - Ku band
 - Ka band (one of the only two in the world)

Tracking Station Facility

- Telemetry, Tracking and Command (TT&C)
 - Rocket launch support
 - Satellite deployment support
 - Satellite mission life cycle support
- Satellite Tracking and Data Acquisition (ST&DA)
 - Remote sensing, Earth Observation

Mission Support Services



Primary TT&C Activities

Launch Support Services:

- Launch and Early Orbit Phase
- Transfer Orbit Support Services
- In Orbit Testing
- Ranging
- Emergency Support
- In orbit maintenance services

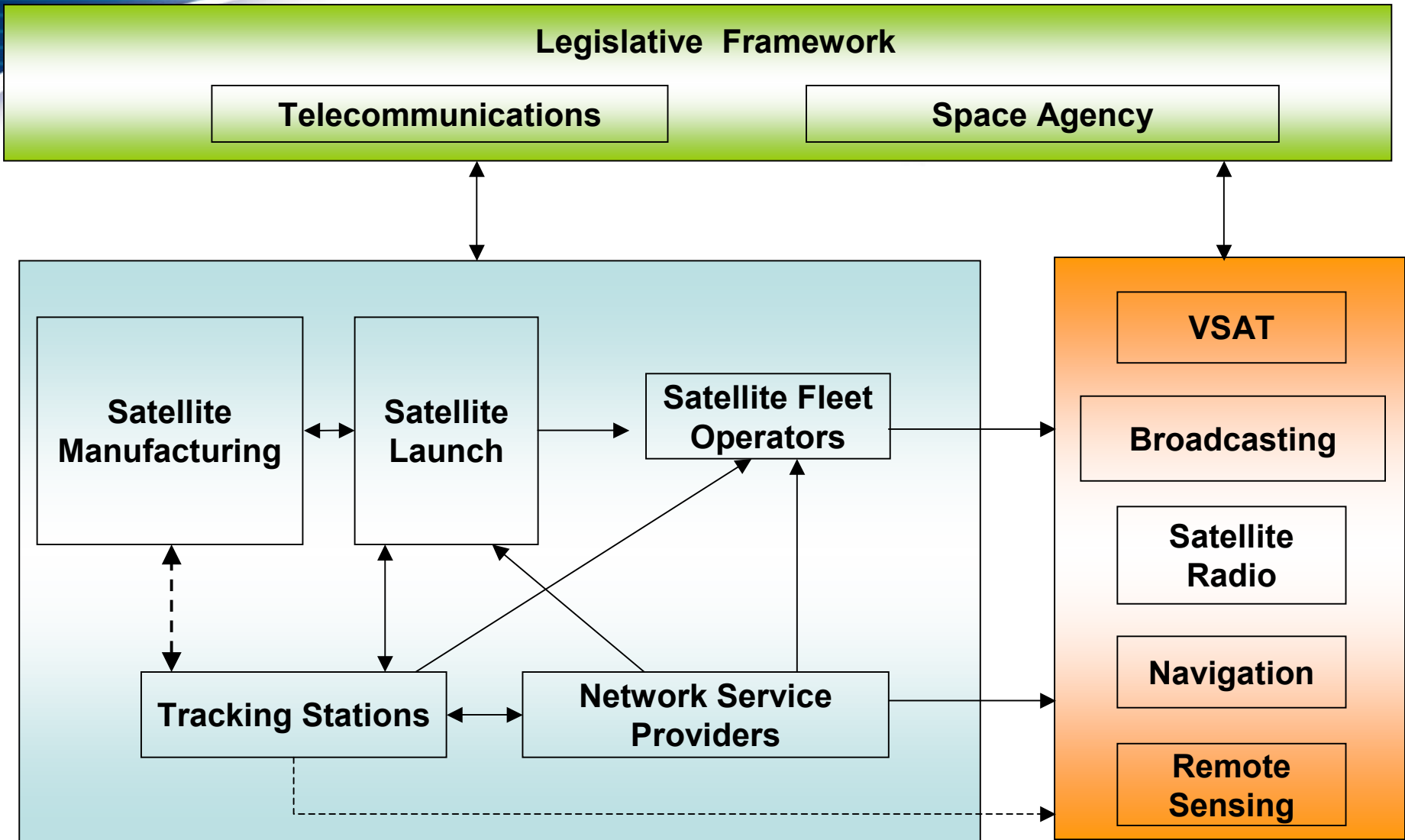
Space Technology Activities

- Satellite antenna pattern measurements
- Navigation augmentation system

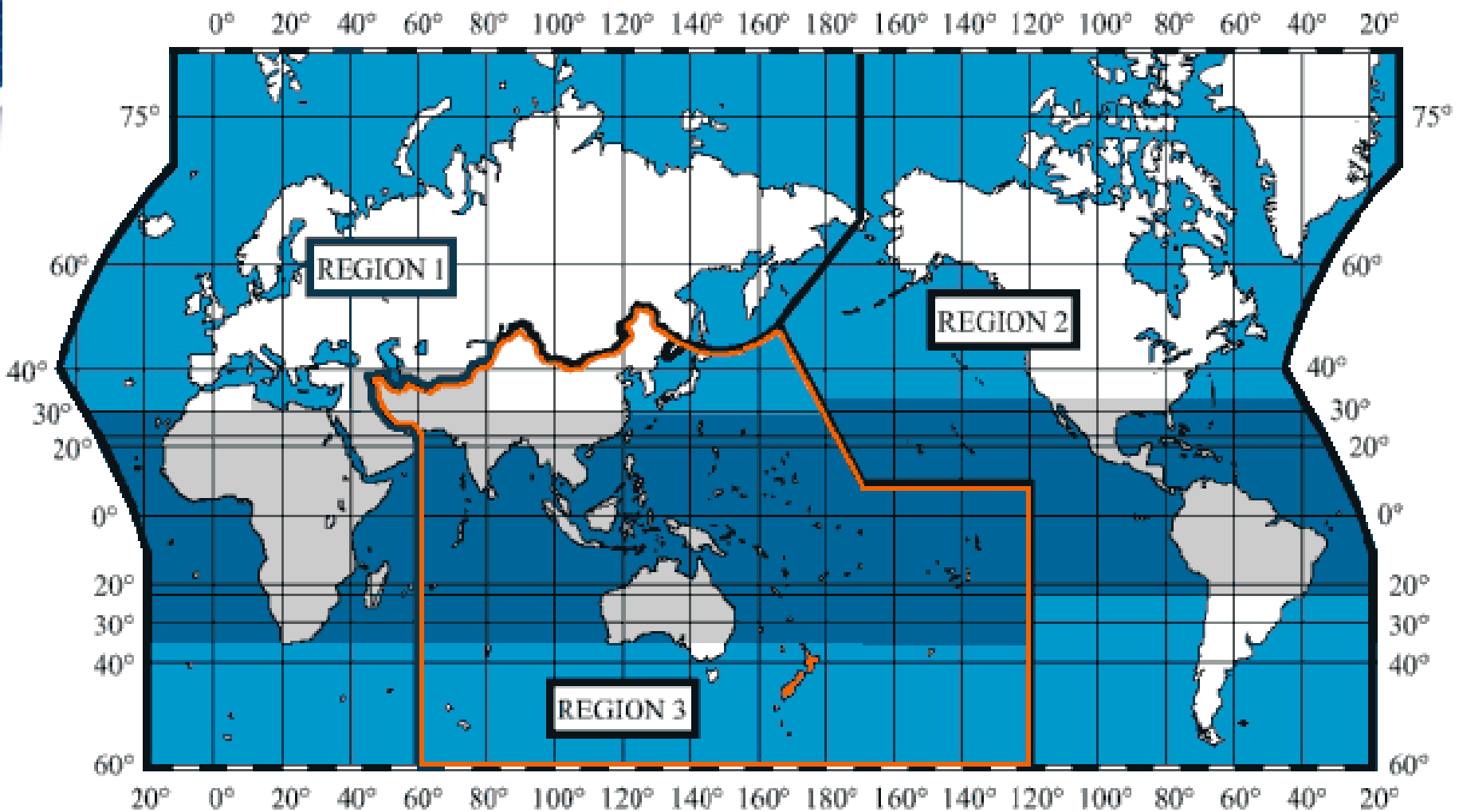
Primary ST&DA Activities

- Reception of satellite imagery data
- Ingesting, archiving and cataloguing
- Value addition as a means to enhance basic product range e.g.:
 - Advanced Fire Information System (AFIS)
- Packaging and distribution of processed imagery data to end-users

The Satellite Technology Industry



Regulatory Framework



Regulatory Framework

- ICASA regulates telecommunications services in South Africa:
 - PSTN licenses (Telkom, **SNO**)
 - Multimedia (Sentech)
 - Broadcasting (Sentech, Multichoice)
 - GSM (Cell-C, MTN, Vodacom)
 - PTN (Transnet, Eskom, etc)
 - VPN (Typically private industry)
 - USAL (regional operators in all provinces)
 - Convergence bill (still under deliberations)

Open Ended Questions

- Why do we need a ground station?
- How much does it cost CSIR to run such a facility?
- Who are the typical customers?
- What type of skills are required?
- What projects is SAC involved in?
- What are the current risks associated with the station?
- Are you ready to support ZASAT programme?
- Who are your competitors?
- From where do you source or procure technology from?

Thank You