OPTIMISING SPACE BENEFITS THROUGH EFFECTIVE USE OF AEROSPACE TRANSPORTATION SYSTEMS

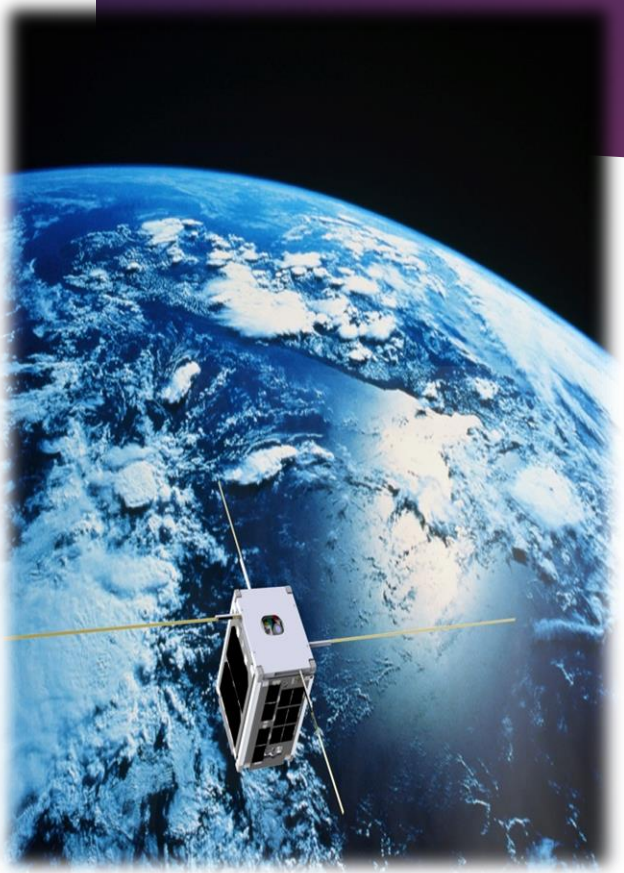
SPACE 2015: ICAO-UNOOSA SYMPOSIUM

ICAO HEADQUARTERS

MONTREAL

18-20 MARCH 2015

PRESENTATION OVERVIEW



- **INTRODUCTION**
  - OVERVIEW OF SOUTH AFRICAN SPACE MARKET
  - AFRICAN SPACE PROGRAMS: POLICY THRUST
- **THE SIGNIFICANCE OF NEW AEROSPACE SYSTEMS**
  - ECONOMIC IMPLICATIONS
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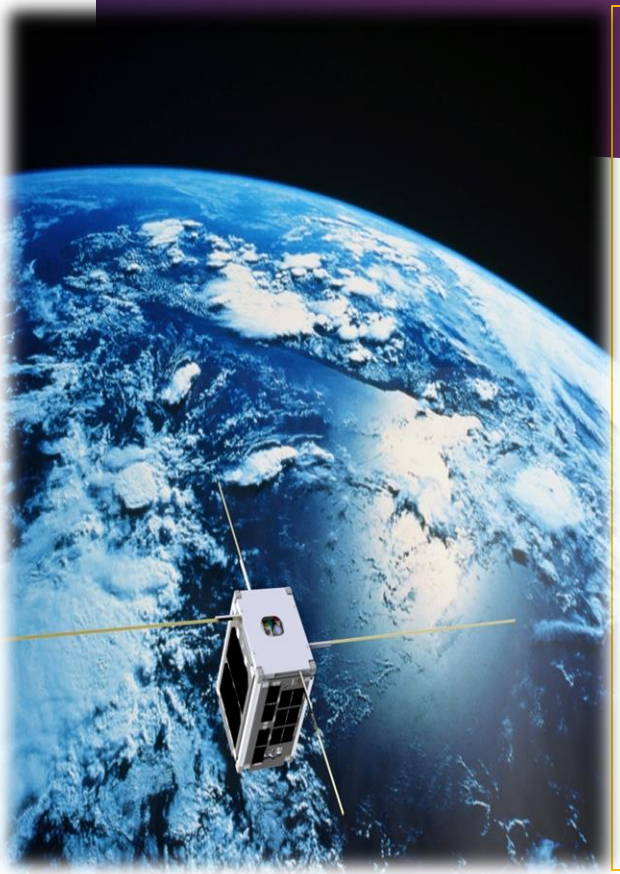
  - ENHANCING SPACE CAPABILITIES
- **INTERNATIONAL CO-OPERATION**
- **CONCLUSION**

INTRODUCTION



SPACE PROGRAMS HAMPERED BY LACK OF APPRECIATION OF SPACE BENEFITS

- Governments The Main Enabler of Space Programs
  - Focus on Space Applications To Address Immediate Socio-Economic Imperatives
  - Research and Development Very Limited To Traditional Science and Engineering Discipline: The Strong Lobby Groups Attract Desired Funding, e.g Astronomy on SKA
  - Main Users of Space Communications Services Relying on International Platforms: No Appetite for Local Space Industry
  - Public Not Fully Apprised of Space Use and Exploration, Hence, Public Funds Hard To Access

OVERVIEW OF SOUTH AFRICAN SPACE MARKET

- INFRASTRUCTURE INVESTEMENTS ABOUT $36BILLION, MAINLY SAELLITE BROADCASTING
- SATELLITE SERVICES ABOUT $3 BILLION
- SPACE APPLICATIONS ABOUT $10 BILLION e.g REMOTE SENSING, NAVIGATION, etc
- NO LAUNCH SERVICES

- DESIRED INVESTMENT LEVELS
  - $40m FOR REMOTE SENSING SATELLLITES
  - $150m FOR GEO SATELLITE;
  - SCIENCE AND HUMAN CAPITAL DEVELOPMENT, **e.g** SKA
  - LAUNCH CAPABILITY APPROX $100m
  - AT LEAST $300m SET ASIDE FOR A COHERENT SPACE PROGRAM IN SA

BENEFITS OF AEROSPACE TRANSPORTATION SYSTEMS

- Aerospace technology demonstration
- Space Education Awareness
- Satellite Deployment
  - Small payloads :CPUT Cube Sat 2013 and more to come
- Hypersonic Airliners
- Point to point transportation for passengers and Cargo

THE BENEFITS OF NEW AEROSPACE SYSTEMS

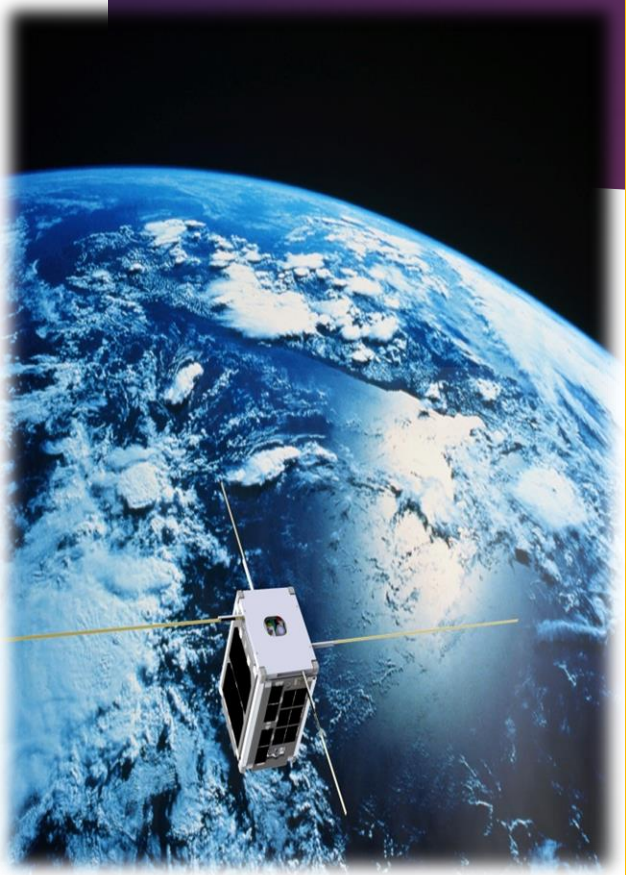
- **ECONOMIC BENEFITS**
  - **LOWER COSTS OF NEW AEROSPACE SYSTEMS**
  - **INFRASTRUCTURE REQUIREMENTS**
  - **ENHANCING LOCAL SPACE CAPABILITIES**
- **ADDRESSING SCEPTICS AND GEOPOLITICS**

- Economic Catalyst
- Socio Cohesion
- Regional Intregration
- National Pride

ENHANCING INTERNATIONAL COOPERATION

- SA NATIONAL SPACE POLICY
  - PEACEFUL USES WITH EMPHASIS ON COOPERATION
  - CONTINENTAL FOCUS, e.g AFRICAN LEADERSHIP CONFERENCE ON SPACE SCIENCE AND TECHNOLOGY
  - AFRICAN RESOURCE MANAGEMENT RESOURCE CONSTELLATION
  - AFRI-GEOSS
- GLOBAL ALLIANCES
  - BILATERALS WITH EU, USA
  - BRICS, IBSA, etc

THE CURRENT NATIONAL SPACE LAW REVIEW PROCESS



- South Africa's current space programme has outgrown the legislative framework foreseen in the SASAA;
- Space applications such as remote sensing, PNT, not addressed;
- Regulations: launch, operation, guidance, and re-entry of space objects;
- Focus on national developmental needs;
  - Space commercialisation and industrialisation;
  - Strengthen administrative institutions;
  - Cross reference other relevant legislation. ICASA etc
  - Flexible regulations

REGULATE TO ENHANCE SPACE CAPABILITY

- Enhance closer cooperation between Government, private entities, NGO's;
- Focus on space industry development in National Developmental Objectives
- Increased space awareness in policy making processes, e.g political party manifesto; parliamentary presence (strong lobby like SKA);
- Locate space in highest office of the land;
- Strong capacity-building initiatives with international institutions like COPUOS, Regional Centres, etc

THANK YOU