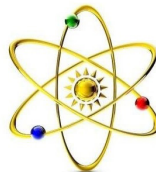




Ministry of Higher Education,  
Technology and Innovation



NCRST  
NATIONAL COMMISSION  
ON RESEARCH SCIENCE & TECHNOLOGY

# Namibia Space Science and Technology Policy

## *At a Glance*

JUNE: 2021

*Using space resources to contribute towards socio-economic growth and development of Namibia.*

## In honor of Dr Japie van Zyl (1957 – 2020), one of Namibia's decorated space scientists.



**Late Dr Japie van Zyl (left) and President Dr Hage Geingob. Namibian-born Dr van Zyl (1957 – 2020) is one of the prominent space scientists and is renowned for several space technologies, including the Ingenuity Mars Helicopter (<https://mars.nasa.gov/technology/helicopter/>). Image source: State House.**

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*Images compliments of Dr Michael Backes, Dr Nicky Knox, Mr Senior Shimhanda, Mr Lott Frans, Bastien Foucher, Sabine Gloaguen*



**Dr Lisho Mundia**  
*Director of Research and  
Innovation in the Ministry of  
Higher Education, Technology  
and Innovation*

## 1. Introduction

This booklet presents a synopsis of Namibia's Space Science and Technology Policy (NSSTP). The purpose of this booklet is to cover the main aspects in the Policy, and other developments in space sciences and technologies. It also highlights some aspects as hallmarks of the expressly monumental benefits space presents to Namibia, and by extension, to the entire globe. To expand on the concepts presented here, a reader is referred to the NSSTP document on the contacts provided at the end of this document.

## 2. Why Space

Space presents significant benefits to humanity. Through space, weather and climate can be predicted, disasters can be mitigated or averted, and communication and broadcasting can be made in real time.

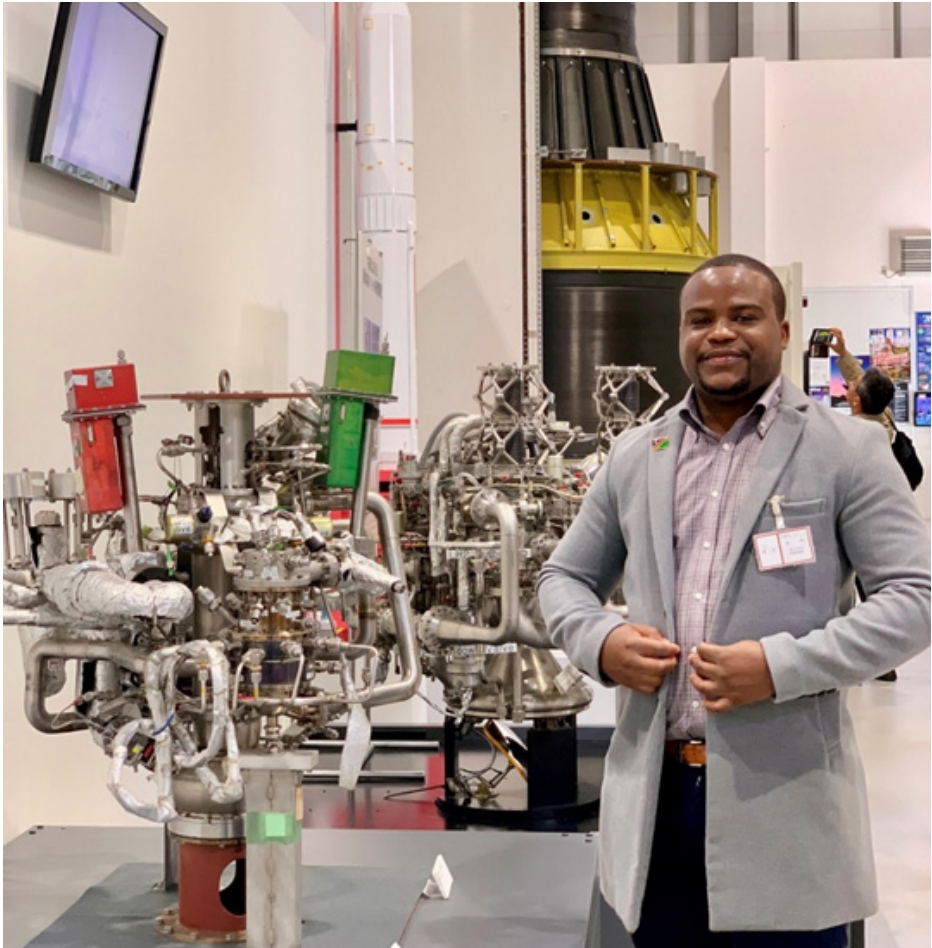
Since the late 1950s, many countries began space exploration. By the 1970s, the first images from satellites were produced. Currently, almost all developed countries have space programs, and expenditure on space programs are in billions of US Dollars every year, with the USA spending almost USD 50 billion in 2020.

This colossal spending highlights the importance of space sciences and technologies.





### 3. Defining Space Science and Technology



***Mr Senior Shimhanda pictured at the Institute of Space and Astronautical Science (ISAS) of the Japan Aerospace and Exploration Agency (JAXA) during the Space Transportation Symposium 2020.  
Mr Shimhanda holds a master's degree in space engineering.***

Space science and space technology are defined as separate entities in Namibia's Space Science and Technology Policy:

### **Space Science**

Refers to any science that relates to the exploration and knowledge extraction on, above and / or beyond the earth's surface using space-and ground-based technology.

### **Space Technology**

Refers to the technology in space-borne and ground instruments or systems that are used to explore or study the universe and the Earth, or to provide services to users on the ground.

## **4.Space and Development**

In delivering various products and services, space contributes to economies across the globe. These economic benefits accrue proportionally higher to countries that invest in space programs than those who do not. For example, the Global Positioning System(GPS) technology has contributed socio-economic benefits worth USD 1.4 trillion since its inception. GPS and other navigation systems (e.g., GLONASS, Galileo, IRNSS) have been around since late 1970s, and several systems are under development.

The contribution of space to Namibia's economy is not quantified. In fact, even at the global level, indicators for measuring the space economy are still under development (see Organisation for Economic Co-operation and Development, 2020). However, even in the absence of a quantifiable economic contribution of the space sector to the Namibian economy, it is evident that Namibia utilises space resources primarily to aid in activities such as transport and logistics, anti-poaching, communication, weather forecasting, banking, and resources monitoring and mapping.

## 5. Investment in Space Science



Despite the practical benefits derived from space, Namibia does not have a dedicated space program. As a result, the fifth National Development Plan indicates that Namibia invests about 0.35% of its Gross Domestic Product (GDP) towards research and innovation, (R&I), and arguably 0% towards space science related R&I. As such, Namibia's companies cannot compete in the space sector, and hence, there is an urgent need to develop national systems that will enhance local growth in space science programmes.

Namibia's Policy on Space Science and Technology aims to transform Namibia from a mere consumer to becoming a role player in the global space arena.

## 6. Development of Namibia's Space Science and Technology Policy

Recognising the importance of space science and technology to the socio-economic development of Namibia, Government of the Republic of Namibia embarked on the development of Namibia's Space Science and Technology Policy in 2016. Namibia was assisted in this undertaking by South Africa's Department of Science and Innovation. The development of this Policy has undergone several reviews by stakeholders in the space sector, and is harmonised with other local, regional and international regulatory instruments.

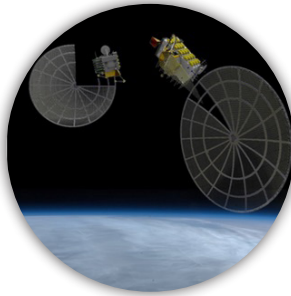




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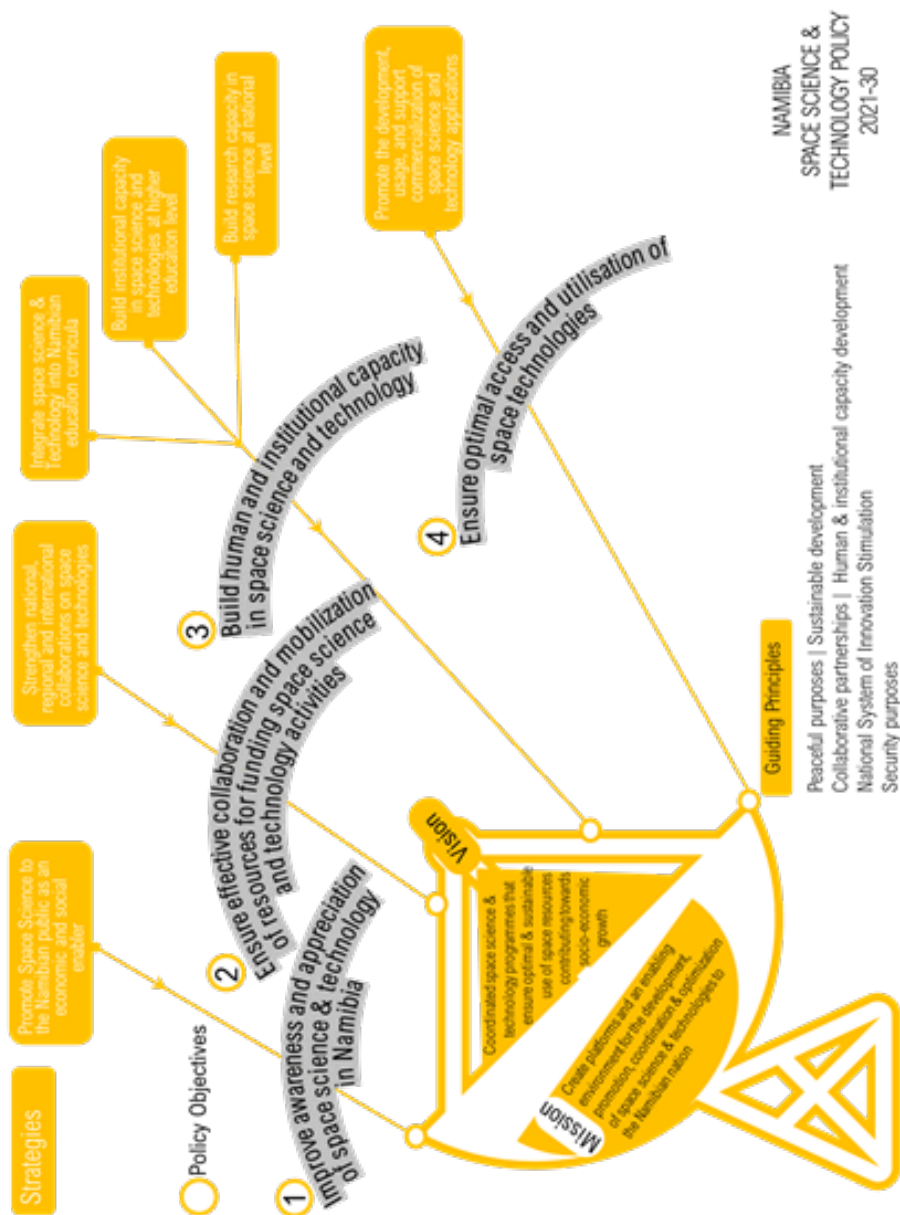


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# 7. Policy direction

The mission, vision, objectives and strategies are summarised below:





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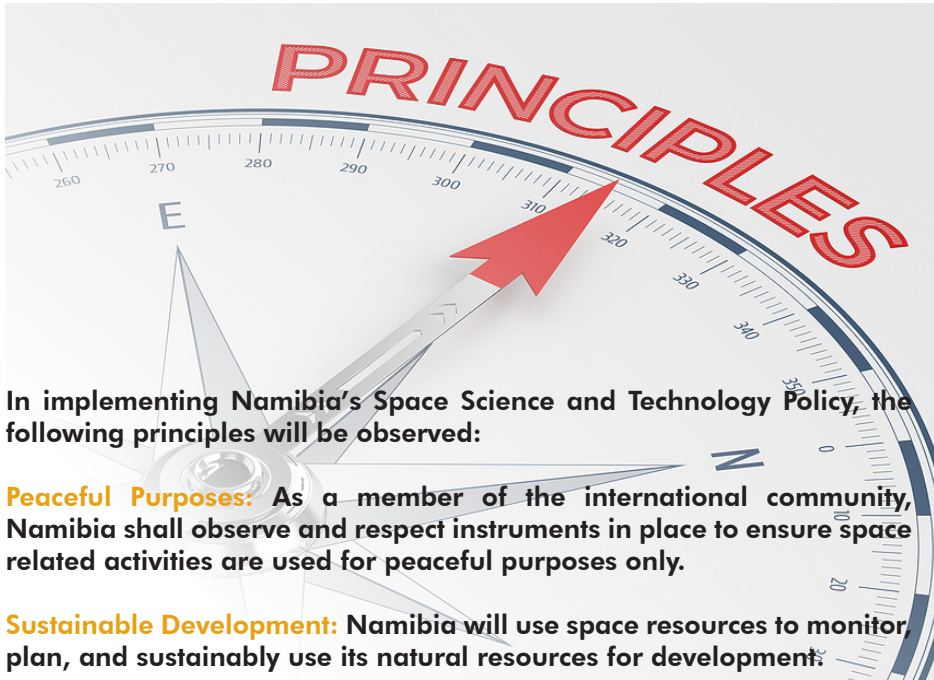


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## 8. Guiding principles







In implementing Namibia's Space Science and Technology Policy, the following principles will be observed:

**Peaceful Purposes:** As a member of the international community, Namibia shall observe and respect instruments in place to ensure space related activities are used for peaceful purposes only.

**Sustainable Development:** Namibia will use space resources to monitor, plan, and sustainably use its natural resources for development.

**Collaborative Partnerships:** Namibia will forge partnerships with other countries and parties interested in space science activities.

**Human and Institutional Capacity:** Namibia shall advance knowledge by investing in science education, research and development, as well as infrastructure.

**Stimulating the National System of Innovation:** Namibia will ensure that investments made in human and institutional capacity development translates in technologies, services, products and know-how that can be used to develop its economy and elsewhere in the world.

**Security Purposes:** Namibia will, through the implementation of this Policy, strive towards promoting and preserving security at national and international level.





## 9. The role of different parties and institutions

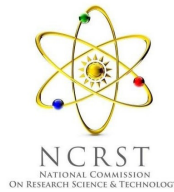
**The Policy will be implemented under the custodianship of the Ministry of Higher Education, Technology and Innovation, and under the coordination of the National Commission on Research, Science and Technology.**

**Other parties such as Higher Education Institutions (HEIs), the Security Cluster, Ministries Responsible for Environment, International Affairs, Agriculture, Education, and other role players have their responsibilities highlighted in the implementation plan of the Policy.**

## 10. Acknowledgments

The Ministry of Higher Education, Technology and Innovation extends its appreciation to all parties involved in the development of this Policy. Specifically, the Ministry would like to thank the National Commission on Research, Science and Technology, the Department of Science of Innovation of South Africa, and the National Planning Commission for playing the principal role in the Policy Development.





## 11. Contact us

Directorate of Research and  
Innovation  
Ministry of Higher Education,  
Technology and Innovation  
Private Bag 13406  
Government Office Park  
Luther Street  
Windhoek,  
Namibia  
**Tel No:** +264 61 435 6028  
**Fax No:** +264 61 435 6058  
**E-mail:** Secretary.DRI@gmail.com

Or  
National Commission on Research,  
Science and Technology  
Private Bag 13253  
Windhoek  
**Tel:** +264 61 431 7000  
**Fax:** + 264 61 216 531  
**Email:** info@ncrst.na  
www.ncrst.na



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