

# African Girls/Women in Space Robotics



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**United Nations / International Astronautical Federation (IAF)**  
**30<sup>th</sup> Workshop on Space Technology for Socio-Economic Benefits**  
**“Challenges and Capacity-Building Opportunities for Emerging Space Nations”**

**29<sup>th</sup> September- 1<sup>st</sup> October 2023 in Baku, Azerbaijan**

# NASRDA Milestone



- The National Space Research and Development Agency (NASRDA) was established in 1999 with broad objectives to pursue the development, application of Space Science and Technology for socio-economic benefits to the nation.
- In 2005 our Nigeria Sat-1 was deployed to manage two world disasters, the hurricane Katrina and the Tsunami. These disasters occurred in United States and South East Asia.





# Introduction



## AGWSR Origin

African Girls/Women in Space Robotics is an initiative of Nigeria Space Agency - (NASRDA) and its aim is to tap into the potential of African girls who are future Leaders in STEAM-related fields. In the year 2022, AGWSR was created.

**We strive not only to educate but to implement and open up a pathway of opportunities for girls across Africa.**

## Our Mission

To create an educative program that will Serve as a mechanism for continued participation in Space Robotics.



# AGWSR Purpose



- To develop a new generation of African girls equipped with critical 'skills of the future' for advanced innovation as a tool to solve the continent's unemployment and environmental challenges through Space Technology.



**Dr. Halilu Ahmad Shaba**  
Director General/CEO  
NASRDA



**Philippa Udi**  
Space/Robotics Scientist, NASRDA  
(Program Co-Ordinator, AGWSR)



**Mrs. Takko**  
Director, Science and Technology Dept.  
Federal Ministry of Education, Nigeria  
**GLOBE Nigeria Coordinator**



Currently reached 8 African Countries

**NIGERIA**

**GHANA**

**KENYA**

**GAMBIA**

**CAMEROUN**

**BENIN**

**ZAMBIA**

**S / AFRICA**





**AGWSR**  
**Abuja-Nigeria, Africa.**





# AGWSR COESSING Accra-Ghana, Africa.





**AGWSR**  
**Niger State-Nigeria, Africa.**





**AGWSR**  
**Abaji-Nigeria, Africa.**

# AGWSR Projects



## STEP 1

### **OUTREACH**

Outreach programs  
within Africa and  
Educational  
Forums

## STEP 2

### **EVENTS**

Workshops &  
Training  
Mentorship  
program  
Conference  
Research  
activities

## STEP 3

### **AGWSR COMPETITION ACROSS AFRICA**

Winners to be  
sponsored for  
NASRDA  
Hackathon

## STEP 4

### **GO GLOBAL**

Participate in  
International  
Space Robotics  
Competitions



# AGWSR Projects /Activities



- **Outreach programs:** That cuts across schools in African countries exposing them to Space Robotics and other Space related activities
- **Interactive Educational forum:** To evaluate the girls in their problem solving abilities, helped in logical reasoning and promoting predictive reasoning
- **Space Robotics Projects:** Skills development and hands-on learning to introduce practical Models working abilities of Space Robotics
- **Events:** Conferences / Workshops, Trainings, Mentorship Programs, Research activities and Seminars for Stake Holders to create awareness, networking, knowledge sharing and skills development for Technology Advancement
- **Educational Tour:** To NASRDA Space Museum
- **AGWSR Local / International Space Robotics Competitions:** Select girls to be sponsored for NASRDA Hackathon and participate in International Space Robotics Competitions



## ISSUES

## SOLUTIONS

Lack of Support and Funding  
Limitations for Space Robotics  
Projects

- International Collaborations to access funding, expertise and Technology transfer. This can bridge resource gaps

Lack of Infrastructure

- International Collaborations with other Space Agencies and Organizations from other countries and Private Sector involvement

Lack of Technical know-how in  
Space Robotics Technology

- Space Robotics Training programs and creating more awareness

Lack of Space Agencies in many  
African Countries

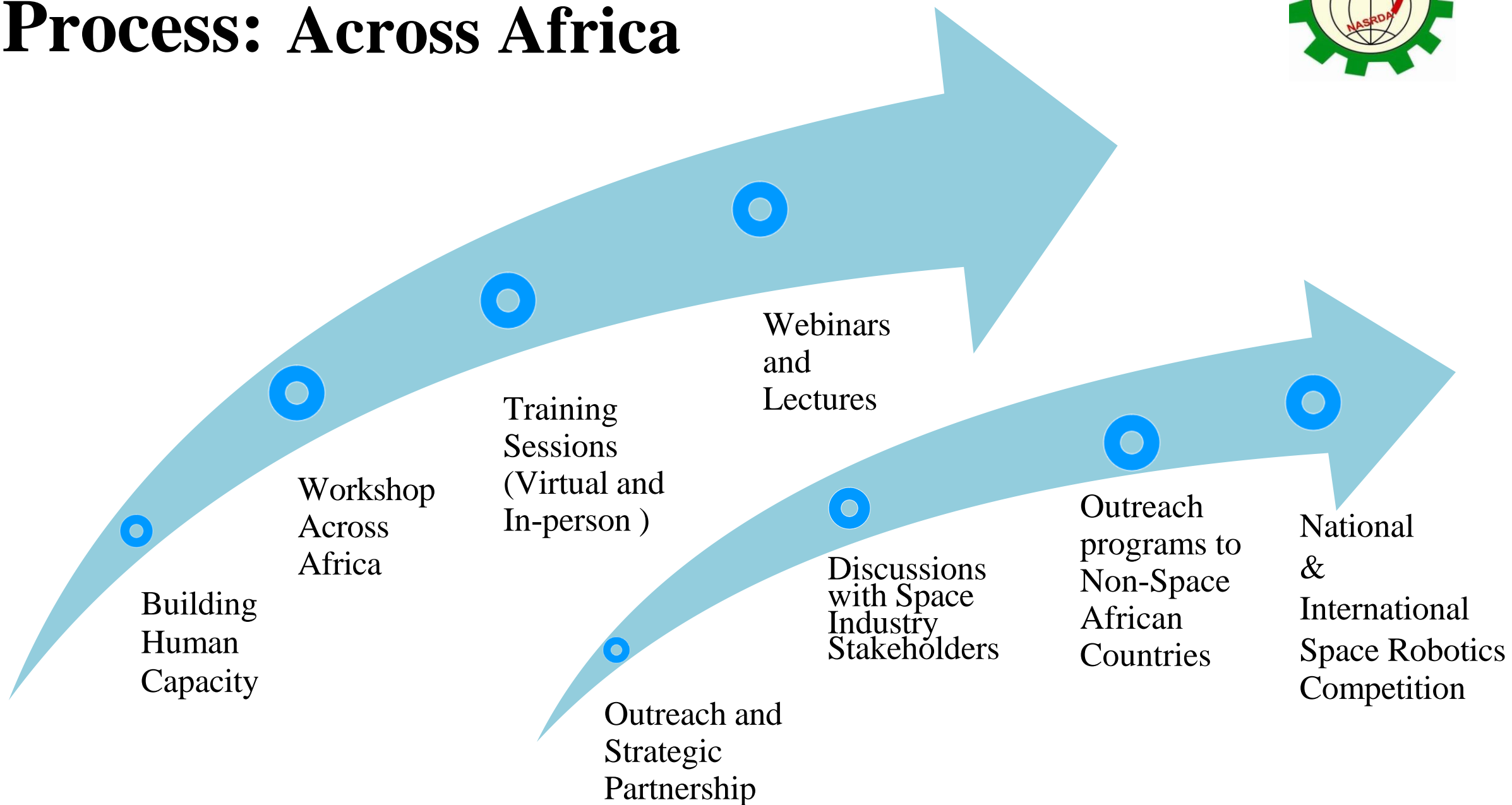
- Outreach programs across African countries with no Space Agencies

**Socio Economic  
Opportunities  
& Challenges**

**Only 22 out of 54 African countries have Space Agencies / involved in space related activities**



# Process: Across Africa



Building Human Capacity

Workshop Across Africa

Training Sessions (Virtual and In-person )

Webinars and Lectures

Outreach and Strategic Partnership

Discussions with Space Industry Stakeholders

Outreach programs to Non-Space African Countries

National & International Space Robotics Competition



# Empowering Women Science Teachers, Mentors and Advocates

Mentorship Programs originating at the local level to feed into national and international Mentorship Program of UNOOSA

Train the trainers program:

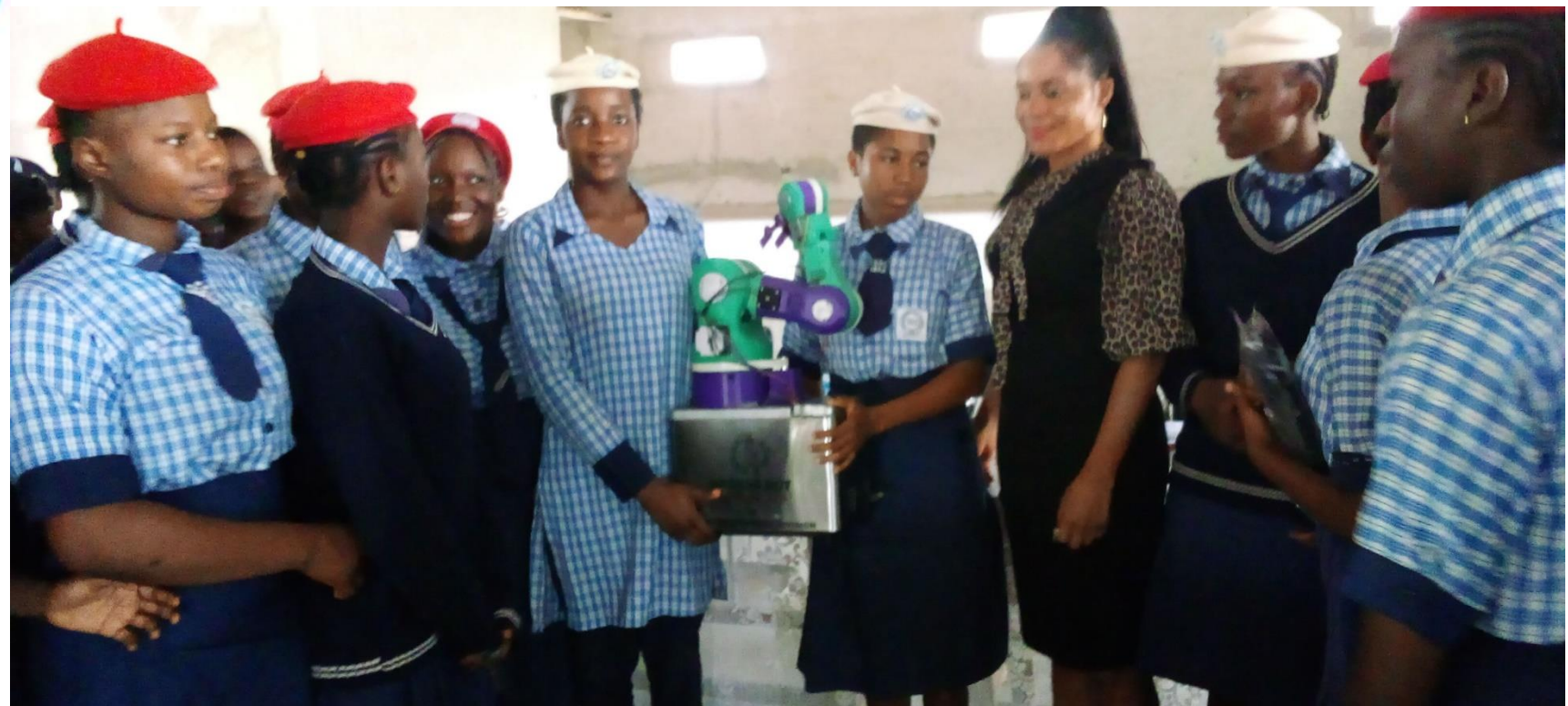
Outreach programs for female teachers to identify the brilliant ones and provide professional Space Robotics training

Competitive Grants to support Female Mentors, Teachers, Advocates in printing Space Robotics Prototype for hands-on Training





AGWSR







**AGWSR**



# Invest in Africa



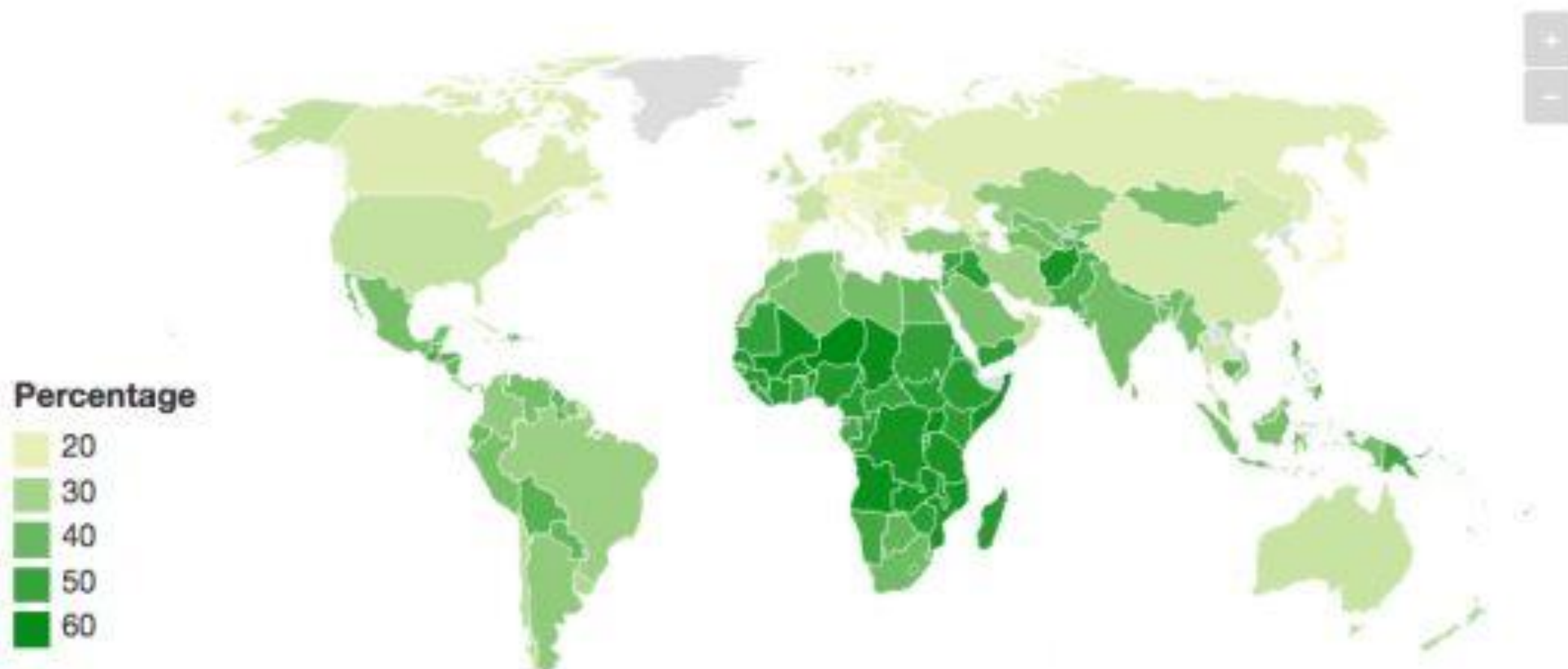


# CATCH THEM YOUNG



## The World's Youngest Populations Are in Africa

Percentage of country's population under 20 years old in 2015



Country borders or names do not necessarily reflect the World Bank Group's official position.

Source: [UN World Population Prospects](#)



# Projection

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**Space Robotics Training and projects**

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**Creation of the new African  
Space Robotics Society**

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**Mentorship and yearly Space Robotics  
Competition**

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**Discussions with stakeholders**

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**Space Robotics Education Program Strategy**

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**Creating Awareness of Space Robotics to  
existing Robotics and Science Clubs in Schools**

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**The future of the Space industry is Robotics**

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## **Conclusion**

**Space Robotics and Artificial Intelligence For the advancement of Africa, holds promises for enhanced productivity growth and for the well being of all citizens**

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**In Africa, there is a significant gender gap in Technology, lets make technology more attractive, more welcoming for girls, an opportunity for them to grow as women in Tech**



# Thank you



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