

Ethiopian Space Program Development

Yeshurun A. Adde (PhD)

Deputy Director-General

Ethiopian Space Science & Technology Institute



HISTORICAL OVERVIEW



**Establishment of
Ethiopian Space Science
Society
(ESSS)**

2004



**Establishment of
Ethiopian Space Science
and Technology Institute**

The institute was established with two major centers:

- Aeronautics and Astronautics Center
- Entoto Observatory Research Center

2012

**Establishment of Entoto
Observatory Research
Center (EORC)**



2016



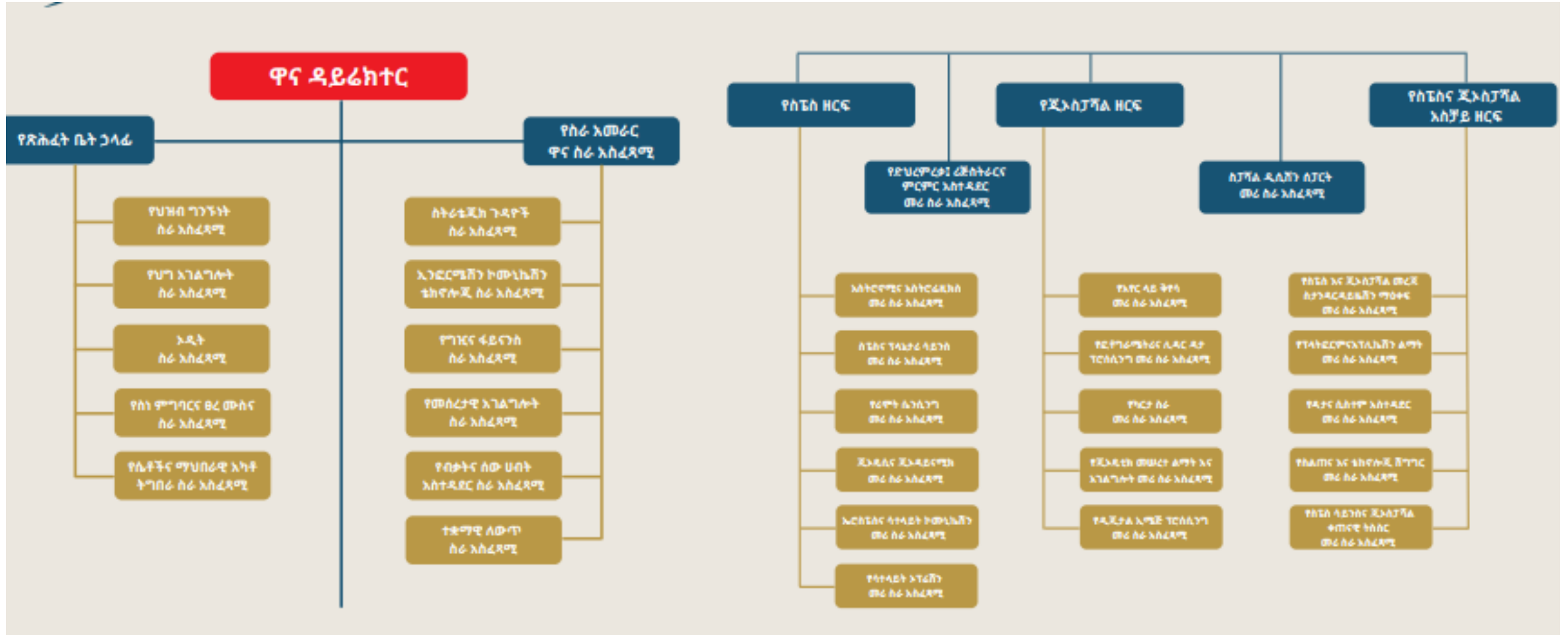
**Establishment of Space
Science and Geospatial
Institute**

2022

ESTABLISHMENT OF SSGI

- ✓ Space Science and Geospatial Institute (SSGI) is the official Ethiopian federal governmental institute established in 2022 with regulation no 511/2022 and works on space science and geospatial sectors.
- ✓ SSGI envisions to fully exploit multidimensional uses of space science and technology in the space and geospatial sectors and be a robust contributor for the national development.
- ✓ It provides support, guidance and leadership in implementing the space policy and strategies in the country. It conducts research, training, and consultancies that support national developmental activities and capacitates utilization, adaptation, improvement, and production of space and geospatial products and services. It also ensures the development of space and geospatial infrastructures and technologies for these purposes.
- ✓ SSGI has a mandate to lead and coordinate national space science and geospatial activities; create cooperation and partnership with foreign peer institutions; represent Ethiopia in regional and international fora.

SSGI Organogram



SSGI SPACE SECTOR



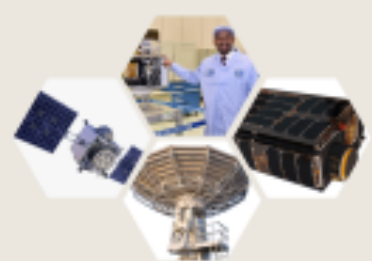
ASTRONOMY & ASTROPHYSICS
R&D DIRECTORATE



REMOTE SENSING
R&D DIRECTORATE



AEROSPACE ENGINEERING
R&D DIRECTORATE



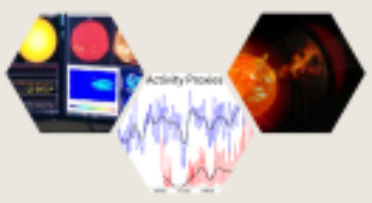
SATELLITE OPERATION
R&D DIRECTORATE

GRADUATE PROGRAMS
MSc AND PhD

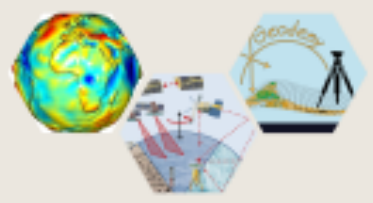


GRADUATE PROGRAMS
MSc AND PhD

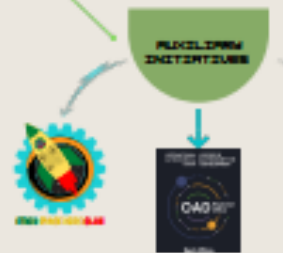
SPACE APPLICATION
R&D DIRECTORATE



GEODESY & GEO-DYNAMICS
R&D DIRECTORATE



SPACE AFFAIRS MONITORING &
REGULATION DIRECTORATE



SPACE POLICY & STRATEGY
DEVELOPMENT R&D DIRECTORATE



ICT & HIGH COMPUTING
DIRECTORATE



Private and Non-Governmental Space Initiatives

FARIS

**N-Jet
Dynamics**

NERD

APS

AAAC

**UNISEC-
Ethiopia**

WHAT WE DO



**Aerospace Systems
Design and
Development**



**Satellite System
Development**



**Aerospace
Materials**



**Development of
Aerospace Application
Software**



**Aerospace
Manufacturing,
Assembly, Integration,
and Test Facilities
Development**



**Space Robotics &
Autonomous Systems
Development**



**Launch Propulsion
System Development**



**Aerospace
Avionics**



Instrumentation

ACTIVE PROJECTS



QUAD-ROTOR
SPRAYER



SOUNDING
ROCKET



HEXACOPTER
SPRAYER



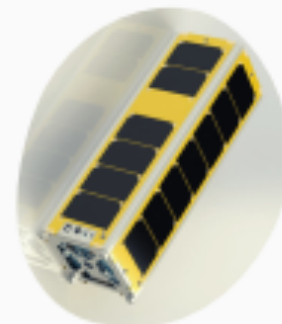
SPACEPORT
FEASIBILITY
STUDY



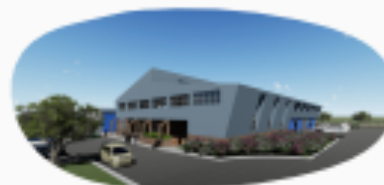
FIXED WING
UAV



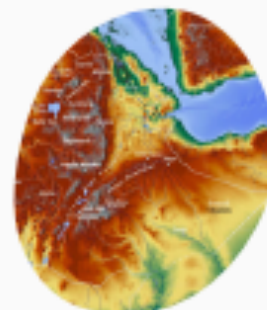
3U CUBESAT



AEROSPACE
LAB &
WORKSHOP



SPACEPORT
SITE
SELECTION



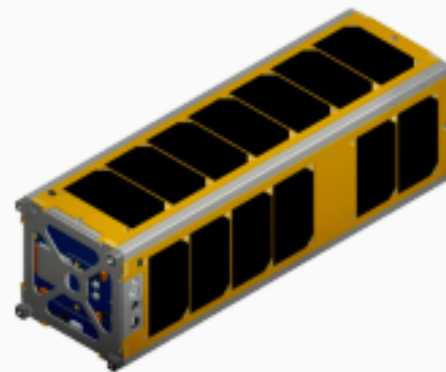
BRIEF PROJECT DESCRIPTIONS



FIXED WING UAV PROJECT



HI_ROCKET PROJECT



3U CUBESAT PROJECT



HEXACOPTER PROJECT

GRADUATE PROGRAMS



✓ MSc. Programs

- Aeronautical Engineering
- Space Engineering

✓ Ph.D. Programs

- Aerospace Engineering

INFRASTRUCTURE

- ✓ We have already begun construction of an Aerospace Lab & Workshop at AASTU
- ✓ We have defined the layout of the facility and are currently in the works of selecting the necessary equipment list applicable for both research and academics
- ✓ The facility is to have the following labs/workshops:
 - Avionics Lab
 - Thermal & Propulsion Lab
 - Aerodynamics Lab
 - Structure and Material Lab
 - Chemical Lab
 - Mechanical Workshop



THANK YOU!