KENYA’S MICRO-SATELLITE PROGRAM

“1ST KENYAN UNIVERSITY NANOSATELLITE - PRECURSOR FLIGHT (1KUNS-PF)”

KiboCUBE SESSION (UN/IAF WS)
30TH SEPTEMBER, 2019

Presentation: Dr John Kimani (Kenya)
Kenya’s Nano-Satellite Project

- KiboCUBE 1st Round launched by UNOOSA/JAXA in 2016 to offer an opportunity for developing country to launch cubesat from JAXA’s KiboCUBE module on ISS.
- Kenya University Nano-Satellite (IKUNS) program team submits application to benefit from KiboCUBE program.
- Objective of precursor mission flight is to test sub-systems for Italian-Kenya University Nano-Satellite (IKUNS) and the team calls it First Kenya University Nano-Satellite-Precursor Flight (1KUNS-PF)
- Kenya is selected to benefit from 1st Round of the UNOOSA/JAXA KiboCUBE program.
1KUNS-PF Mission

- **Primary goal:** verify the performance of the on-board subsystems, by receiving telemetry data from the satellite.

- **Secondary goal:** acquisition, on-board storage and transmission to ground of low-definition, panchromatic images of Kenya and the East African region.

  - A number of images have been received since launch.
1KUNS-PF Development
1KUNS-PF Development team
See additional images received from the Cubesat on this link:
https://1kuns-pf.ns0.it/index.php/satellite-pictures/
Key Lessons Learnt from 1KUNS-PF

- Important role of International Collaborators:
  - Italian Space Agency (ASI) – Cubesat development
  - UNOOSA and JAXA – Launch opportunity

- Importance of structured planning for the whole process of Cubesat development (University of Nairobi, Kenya benefitted a lot from interactions with University of Rome, Italy)
  - Some process such as frequency application and eventual allocation by WTO takes at least 9 months and can easily be overlooked.
Benefits of the Cubesat Program

- Building human capacity in space disciplines for developing countries that could otherwise find it difficult to build satellites.
- Technology transfer and support from international partners enabling the developing countries to grow their indigenous space sector.
- Enables developing countries to send “satellites” in space, as piggy-back and with opportunities such as the KiboCUBE program.
- Promoting uptake of STEM subjects in schools to guarantee the future of the space industry.
Handover at Tsukuba Space Centre

See detailed timelines of the Cubesat development on: https://1kuns-pf.ns0.it/index.php/timeline/
Thank you...

Kenya Launches First Satellite 1KUNS-PF, Developed by University of Nairobi

By MIRIAM MUSYOKI on Friday, 6 April 2018 - 7:58pm