UNISEC Italy Consortium

During the 3rd UNISEC-Global Meeting in Tokyo (July 2015), Italy was accepted as new local chapter.
Dec 2017

- 5th UNISEC Global Meeting (2-4 December 2017) at the Sapienza’s Engineering Faculty in Rome (Italy)
UNISEC Italy Activities

- 5th UNISEC Global Meeting (2-4 December 2017) at the Sapienza’s Engineering Faculty in Rome (Italy)

   Jan 2018
   
   TIANGONG-1 Re-entry Observing Campaign

   April 2018
UNISEC Italy Activities

May 2018

- Achievement of the LEDSAT CDR – ESA’s FYS Programme
UNISEC Italy Activities

May 2018

- Achievement of the LEDSAT CDR – ESA’s FYS Programme
- Application by the HEMERA Team for the 5th Mission Idea Contest
UNISEC Italy Activities

May 2018

- Achievement of the LEDSAT CDR – ESA’s FYS Programme
- Application by the HEMERA Team for the 5th Mission Idea Contest
- The Italian University of Tor Vergata (Rome) joined UNISEC Italy
UNISEC Italy Activities

July 2018

- Selection notification for the HEMERA at the 5th MIC
UNISEC Italy Activities

July 2018

- Selection notification for the HEMERA at the 5th MIC

Sep 2018

- Start of the development for the fixed Space Debris Observatory for the Gran Sasso facility (Abruzzo, Italy)
UNISEC Italy Activities

- Pre-selection of the TARDIS student team for the ESA’s BEXUS 28/29 Educational programme
UNISEC Italy Activities

Nov 2018

- Pre-selection of the TARDIS student team for the ESA’s BEXUS 28/29 Educational programme
- 6th UNISEC Global Meeting at Strasbourg (France)
UNISEC Italy Activities

Nov 2018

• Pre-selection of the TARDIS student team for the ESA’s BEXUS 28/29 Educational programme

• 6th UNISEC Global Meeting at Strasbourg (France)

Dec 2018

• «5th Space Debris Student Opportunities Workshop» at Sapienza University of Rome (Rome, Italy)
UNISEC CubeSat Activities

**URSA MAIOR**
University of Rome La Sapienza
Micro-Attitude In-Orbit Testing

*2014 – In orbit*
Status: Launched on 23 June 2017

**1KUNS-PF**
1st Kenyan University
Nano-Satellite – Precursor Flight

*2017 – Deployed by the ISS*
Status: Launched by ISS on May 11, 2018

With University of Nairobi, Kenya

**IKUNS-B/LEDSAT**
Italian-Kenyan University Nano-Satellite / LED-based small SATellite

*2017 – Under development*
Status: To be launched within 2020
Developed and qualified from 2014 to 2016 at the S5Lab (Rome, Italy)
Primary Payload: CartoSat
Deployed in Sun-Synchronous orbit with other 30 nanosatellites

Launched on 23 June 2017 on PSLV-C38
Deployed with other 30 nanosatellites (part of the QB50 project)

Still operative in orbit
URSA MAIOR has been deployed in a Sun-Synchronous orbit (500 km altitude). It is still communicating with the S5Lab team.
UNISEC CubeSat Activities

**URSA MAIOR**
University of Rome La Sapienza
Micro-Attitude In-Orbit Testing

2014 – In orbit
Status: Launched on 23 June 2017

**1KUNS-PF**
1st Kenyan University
Nano-Satellite – Precursor Flight

2017 – Deployed by the ISS
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**IKUNS-B/LEDSAT**
Italian-Kenyan University Nano-Satellite / LED-based small SATellite

2017 – Under development
Status: To be launched within 2020
1KUNS-PF and LEDSAT share many features of the design. In fact, 1KUNS-PF represent a Precursor Flight for the IKUNS project nano-satellites, allowing to test components and sub-units that will fly on LEDSAT.

1KUNS-PF has been developed between June and December 2017 by the joint student satellite team, in collaboration with the University of Nairobi. It is the first CubeSat participating in the joint UNOOSA/JAXA KiboCUBE Nano-Satellite Programme, and the first CubeSat developed by the Republic of Kenya. Deployed by the ISS on May 11th, 2018. Mission results: https://1kuns-pf.ns0.it
1KUNS_PF mission web-site

1KUNS-PF (1st Kenya University Nano-Satellite – Precursor Flight) is a 1-U CubeSat developed by University of Nairobi with the technical support of Sapienza University of Rome. It is the first beneficiary of the United Nations/Japan Cooperation Programme on CubeSat Deployment from the International Space Station (ISS) Japanese Experiment Module (Kibo) “KiboCUBE”. After being launched onboard the SpaceX Dragon CRS-14 mission, it was deployed from the International Space Station on May 11th, 2018. It is currently operational in orbit.

The program is focused on capacity building in aerospace in Kenya, through the development of a complete space mission, after the Kenya Space Agency. The collaboration between the two universities, the support of the United Nations, and the technical assistance of Japan have enabled the development of a full mission and the launching of a CubeSat into orbit.

Images

First beneficiary of KiboCUBE

Supported by

UNOOSA

JAXA

Kenya Space Agency

NPC

RoboOptics

1KUNS-PF

University of Nairobi
Sapienza University of Rome

Sardinia and Corsica

June 19, 2018; 08:50 UTC

Peloponnesse

June 23, 2018; 13:22 UTC
Space Debris-related Activities

EQUO (Equatorial Observatory for Space Debris)

Continuous tracking of LEO objects from Italy and Kenya

ALMASCONE: 2010 Equatorial test campaign
- Telescope - 25 cm f/4 in newtonian configuration
- CCD Kaf1600E sensor, 1024x1536 pixels, each pixel is 9x9 micron (total chipsize 9.2x13.8 mm)
- Mount German equatorial
- The field of view is of about 1 degree

LEO High Inclination tracking from Italy and Kenya (Terminator Shape)
International Collaborations
Internationa Student Contests and Educational Programme
Internationa Student Contests and Educational Programme
Questions?

6th UNISEC Global Meeting
Strasbourg (France), 20 November 2018