

Brazilian Nano-Satellites Review

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Topics

- UNOSAT
- 14 BisSat
- ITASat
- Nano-Sat C-BR

SPACE Group

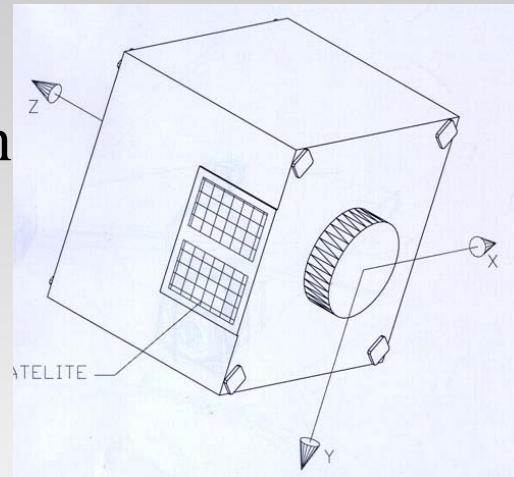
From 4 students in 2000... To 15 students and 5 teachers in 2001



SPACE
UNOSAT



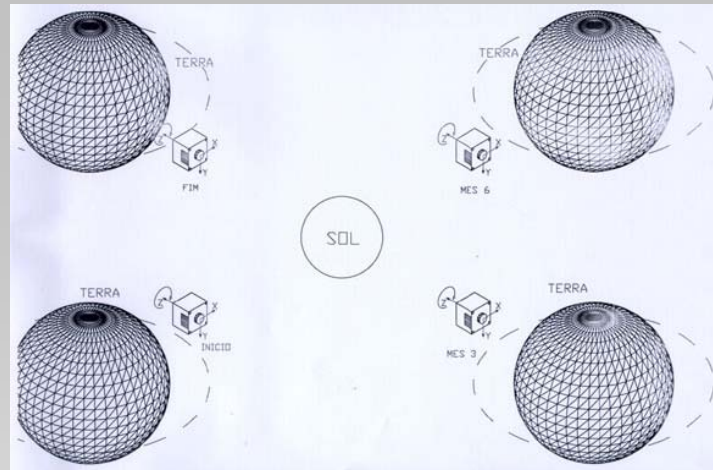
- First Brazilian nano-sat
- Undergraduated naNO Student SATellite
- VLS Launch Vehicle
- 4 Prof. + 9 students
- Mission: Voice message + 5 parameters (Packet Radio).
- SATEC Pig-back



Mission

- 800 Km, 15 degrees
- Roll stabilization (170 rpm)
- Variable sun radiation through the year

August 2003- VLS Burned at
Lanch tower



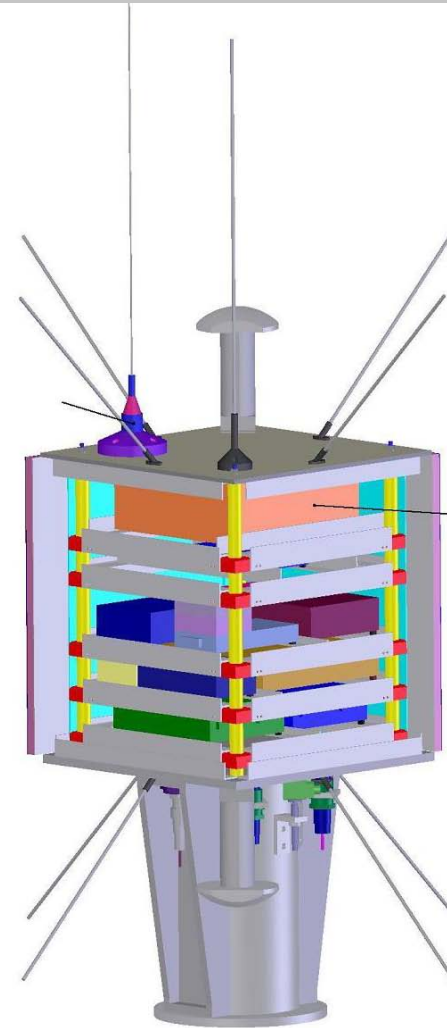
14 BisSat

Brazilian – Ukranian
Student project

Ukranian Platform

Basic Unosat Hardware

14 BISSAT
ANTENNA



14 BISSAT

Microsatellite Technological Platform

University Class

Weight – 20 kg

Payload Weight – 5 kg

Orbit Altitude – 650 km

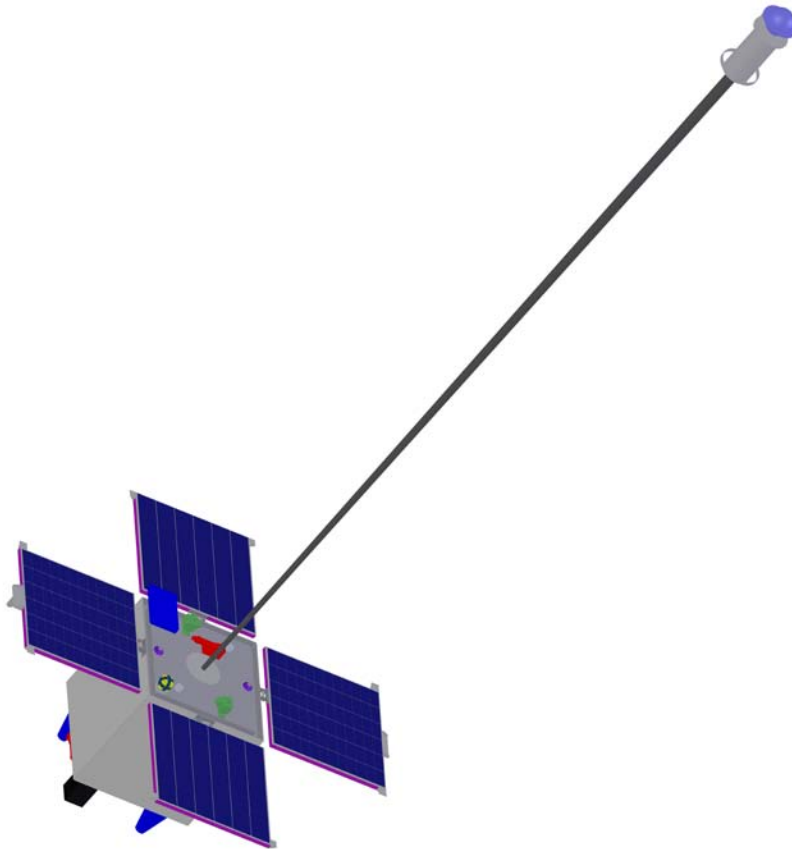
Orbit Inclination – 98 deg

Sizes – 350 x 350 x 530

Orientation – gravi-boom

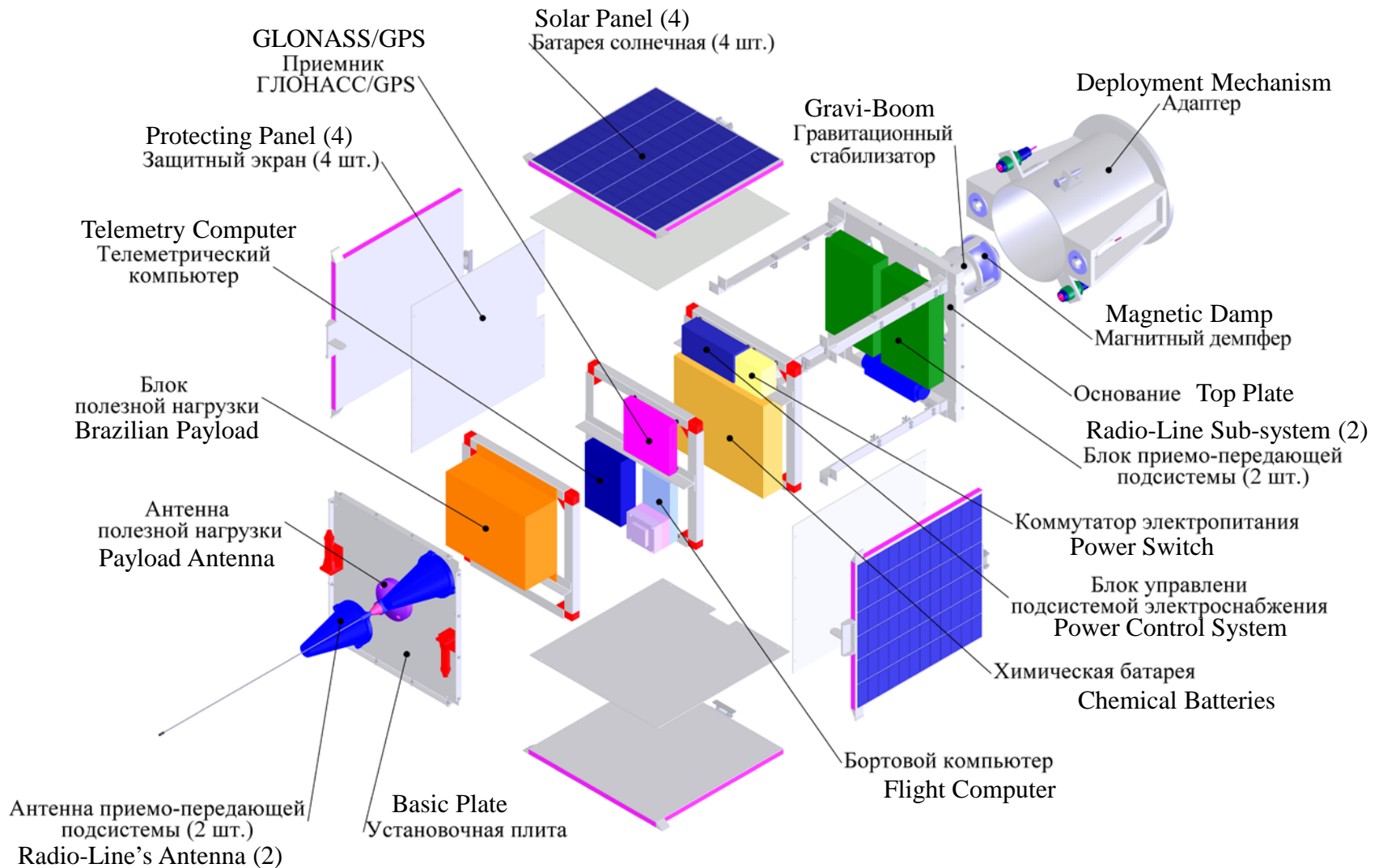
Damp – perm. magnet

Communication – S-band

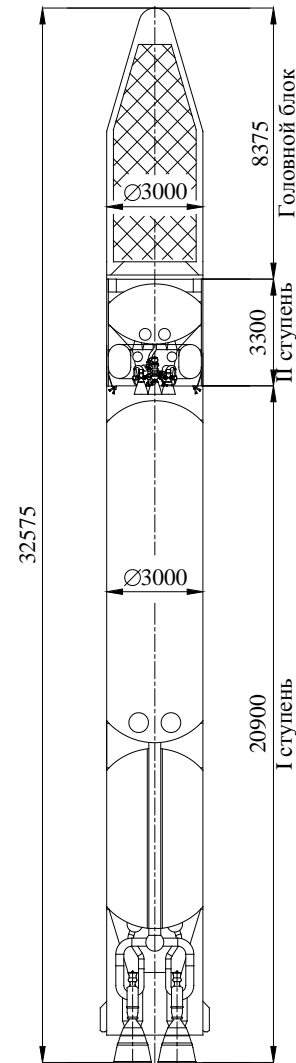


Microsatellite Technological Platform

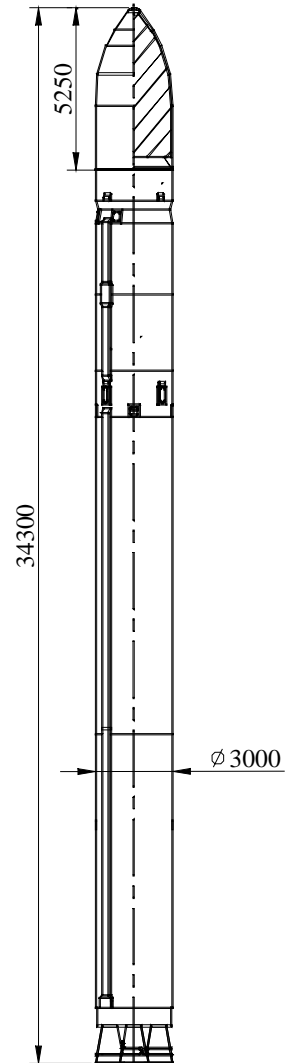
University Class



Launch Vehicles



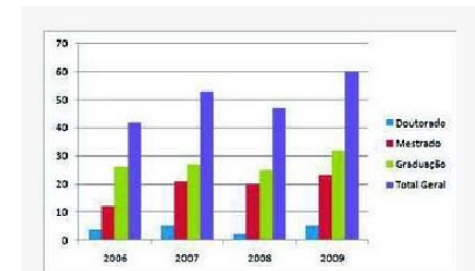
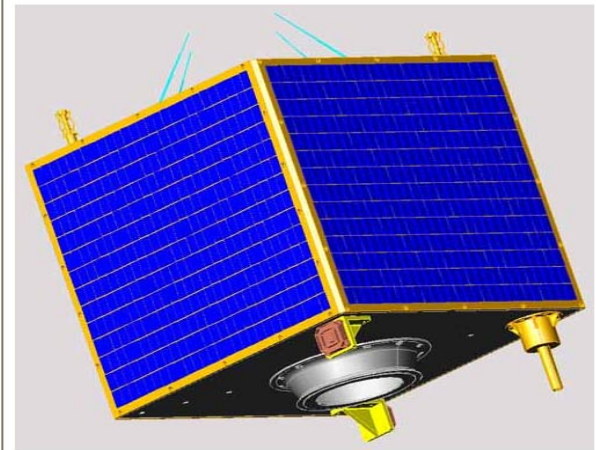
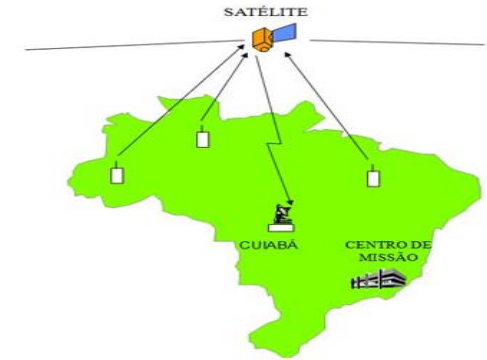
DNIEPR



MAYAK-12

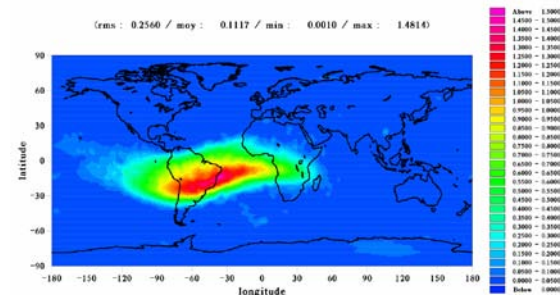
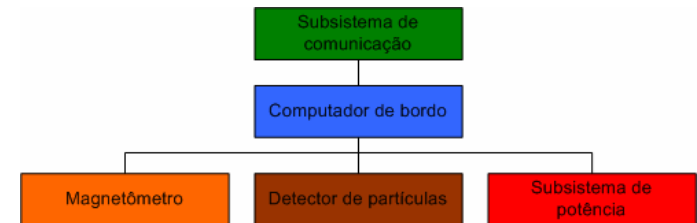
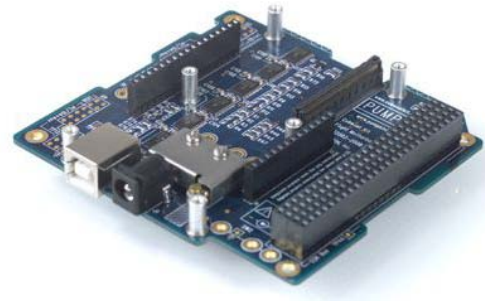
ITASAT

- Started at 2004
- Mainly made by ITA Students
- Launched by the new VLS (2012)
- 85 Kg (60x60x65 cm)
- Polar 600 Km orbit
- Colect data mission + Attitude sensor+ Thermal control equipment.
- 7 universities



NanoSat C-Br

- Cubesat
- Universidade de Santa Maria
- Magnetometer, Precipitation Particule Detector (SAMA Study)
- Launch: VEGA or PLSV (India)
- OBC - Pumpkin Inc
- Tranceptor (AX25)- ISIS
- Power Sub- Clyde Space-LI Bats.



Perspectives

- Nowadays new universities are starting – Naosats (Para)
- AEB new call for projects (2010)