Committee on the Peaceful Uses of Outer Space

Information furnished in conformity with the Convention on Registration of Objects Launched into Outer Space

Note verbale dated 7 November 2014 from the Permanent Mission of Italy to the United Nations (Vienna) addressed to the Secretary-General

The Permanent Mission of Italy to the United Nations (Vienna), in accordance with article IV of the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex), has the honour to transmit information on Italian space objects e-st@r-1, UniSat-5, UniSat-6 and TigriSat (see annex).
Annex

Registration data on space objects launched by Italy*

**e-st@r-1**

Name of space object: e-st@r-1 (international designator 2012-006C)  
Name of launching State: Italy  
Satellite owner: Polytechnic University of Turin  
http://areeweb.polito.it/cubesat-team/  
Date and location of launch: 13 February 2012 at 1000 hours UTC  
French Guiana (France)  
Launch vehicle: Vega (VV01)  
Basic orbital parameters:  
  - Nodal period: 103 minutes  
  - Inclination: 69.5 degrees  
  - Apogee: 1,450 kilometres  
  - Perigee: 350 kilometres  
General function: e-st@r-1 is a nanosatellite of the CubeSat category. Its dimensions are 0.1 x 0.1 x 0.1 m and its weight is 0.968 kg. Under the University’s programme, the mission’s purpose is the demonstration of an active 3-axis attitude determination and control system including an inertial measuring unit.

**UniSat-5**

Name of space object: UniSat-5 (international designator 2013-066F)  
Name of launching State: Italy  
Satellite owner: GAUSS S.r.L  
Date and location of launch: 21 November 2013 at 0710 hours UTC  
Dombarovsky Cosmodrome at Yasny, Russian Federation  
Launch vehicle: Dnepr RS-20 rocket from International Space Company (ISC) Kosmotras  
Basic orbital parameters:  
  - Nodal period: 97.23 minutes  
  - Inclination: 97.8 degrees

* The registration data are reproduced in the form in which they were received.
Table 1: Basic orbital parameters and general function of UniSat-5 and UniSat-6

<table>
<thead>
<tr>
<th>Name of space object:</th>
<th>UniSat-5 (international designator 2013-034C)</th>
<th>UniSat-6 (international designator 2014-033C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of launching State:</td>
<td>Italy</td>
<td>Italy</td>
</tr>
<tr>
<td>Satellite owner:</td>
<td>GAUSS S.r.L</td>
<td>GAUSS S.r.L</td>
</tr>
<tr>
<td>Date and location of launch:</td>
<td>19 June 2013 at 1912 hours UTC Dombarovsky Cosmodrome at Yasny, Russian Federation</td>
<td>19 June 2014 at 1912 hours UTC Dombarovsky Cosmodrome at Yasny, Russian Federation</td>
</tr>
<tr>
<td>Launch vehicle:</td>
<td>Dnepr rocket from ISC Kosmotras</td>
<td>Dnepr rocket from ISC Kosmotras</td>
</tr>
<tr>
<td>Basic orbital parameters:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nodal period:</td>
<td>97.88 minutes</td>
<td>97.97 degrees</td>
</tr>
<tr>
<td>Inclination:</td>
<td>97.88 minutes</td>
<td>97.97 degrees</td>
</tr>
<tr>
<td>Apogee:</td>
<td>634 kilometres</td>
<td>701 kilometres</td>
</tr>
<tr>
<td>Perigee:</td>
<td>633 kilometres</td>
<td>618 kilometres</td>
</tr>
<tr>
<td>Current status:</td>
<td>Not functional. Failed after launch insertion and the automatic deployment of its microsatellites</td>
<td>Operational for its expected lifetime of 2 years</td>
</tr>
<tr>
<td>General function:</td>
<td>UniSat-5 is an educational civilian satellite carrying onboard experiments. It is also a platform for the release of smaller satellites in orbit, the first in the history of microsatellites. Its weight at launch is 28 kg. Details and points of contact are available at <a href="http://www.gaussteam.com">www.gaussteam.com</a>. UniSat-5 carried onboard the following subsatellites: • 4 CubeSats (10-cm cubes): ICUBE-1 (Pakistan), HumSat-D (Spain), Dove-4 (United States of America) and PUCP-Sat 1 (Peru) • 5 femtosats also known as “pocket cubes” (5-cm cubes with a mass between 0.1 and 1 kg): Eagle-1 and Eagle-2 (United States), QBScout-1 (United States), PUCP (Peru) and WREN (Germany)</td>
<td>UniSat-6 is an educational civilian satellite carrying onboard experiments. It is also a platform for the release of smaller satellites in orbit. Its launch weight is 26 kg and its</td>
</tr>
</tbody>
</table>
dimensions 0.473 x 0.5 x 0.5 m. Details and points of contact are available at www.gaussteam.com. After being deployed from the Dnepr upper stage, UniSat-6 — deployed the following subsatellites:

- 4 CubeSats: 1.33-kg AeroCube-6 (United States), 2.66-kg AntelSat (Uruguay), 3.6 kg TigriSat (Italy) and 4.00 kg Lemur-1 (United States)

UniSat-6 satellite’s estimated decay date is 1 June 2035

**TigriSat**

Name of space object: TigriSat (international designator reference is that of UniSat-6: 2014-033C)

Name of launching State: Italy

Satellite owner: University of Rome “La Sapienza”, Department of Aeronautical, Electrical and Energetic Engineering

Date and location of launch: 19 June 2014 at 1912 hours UTC

Launch vehicle: Dnepr rocket from ISC Kosmotras

Basic orbital parameters:

- Nodal period: 97.88 minutes
- Inclination: 97.97 degrees
- Apogee: 701 kilometres
- Perigee: 618 kilometres

Current status: Operational for 2 years after launch

General function: TigriSat is an educational civilian CubeSat that has been deployed in orbit from the UniSat-6 satellite. It carries onboard a 1-km resolution dust storm detection payload. TigriSat weighs 3.6 kg

TigriSat’s estimated decay date is 1 December 2039