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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 25 July 2019 from the Permanent Mission of Japan to the United Nations (Vienna) addressed to the Secretary-General

The Permanent Mission of Japan 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 space objects launched by Japan (see annex I) and additional information on previously registered space objects (see annex II).

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Annex I

Registration data on space objects launched by Japan*

PROCYON

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

Committee on Space Research international designator	2014-076D
Name of space object	PROCYON
State of registry	Japan
Date and territory or location of launch	3 December 2014 at 0422 hours, 04 seconds UTC; Tanegashima Space Center, Kagoshima Prefecture, Japan
Basic orbital parameters	
Nodal period	Not applicable (Earth escape trajectory)
Inclination	Not applicable (Earth escape trajectory)
Apogee	Not applicable (Earth escape trajectory)
Perigee	Not applicable (Earth escape trajectory)
General function of space object	The principal objectives of PROCYON are the demonstration of a deep space exploration micro-satellite bus system; power generation, thermal control, attitude control, communication and orbit determination in deep space; and orbit control by a small electric propulsion system. The secondary goals include communication using a high-efficiency GaN X-band power amplifier; precise delta differential one-way range determination navigation in deep space; optical navigation to encounter an asteroid; and asteroid close flyby observations

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Change of status in operations	
Date when space object is no longer functional	4 December 2015 UTC
Physical conditions when space object is moved to a disposal orbit	Since 4 December 2015, the PROCYON operation team has tried to contact PROCYON, but the signal from PROCYON has not been received, which implies that the spacecraft is no longer functional in the heliocentric orbit
Website	www.facebook.com/procyon.spacecraft
Space object owner or operator	University of Tokyo

* The information was submitted using the form prepared pursuant to General Assembly resolution 62/101 and has been reformatted by the Secretariat.

Launch vehicle	H-IIA Launch Vehicle Flight No. 26 (H-IIA-26F)
Celestial body space object is orbiting	Sun

ChubuSat-2

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

Committee on Space Research international designator	2016-012B
Name of space object	ChubuSat-2
State of registry	Japan
Date and territory or location of launch	17 February 2016 at 0845 hours, 0 seconds UTC; Tanegashima Space Centre, Kagoshima Prefecture, Japan
Basic orbital parameters	
Nodal period	96.0 minutes
Inclination	31.0 degrees
Apogee	583.4 kilometres
Perigee	564.0 kilometres
General function of space object	Observation of solar and Earth radiation. Imaging of the Earth with an infrared camera. Message relay service for amateur radio

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Nagoya University
Website	www.frontier.phys.nagoya-u.ac.jp/jp/chubusat/chubusat_satellite2.html
Launch vehicle	H-IIA Launch Vehicle Flight No. 30 (H-IIA-30F)
Other information	This was a piggyback launch; the main satellite was the Japan Aerospace Exploration Agency (JAXA) Hitomi satellite

TRICOM-1R

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

Committee on Space Research international designator	2018-016A
Name of space object	TRICOM-1R
State of registry	Japan
Date and territory or location of launch	3 February 2018 at 0503 hours, 0 seconds UTC; Uchinoura Space Centre, Japan

Basic orbital parameters	
Nodal period	107 minutes
Inclination	30.785 degrees
Apogee	2,010 kilometres
Perigee	183 kilometres
General function of space object	Camera mission. Store and forward mission (data collection mission). Immediate observation mission
Date of decay/re-entry/deorbit	21 August 2018 at 2150 hours, 0 seconds UTC

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Nakasuka & Funase Laboratory, University of Tokyo, Japan
Website	www.t.u-tokyo.ac.jp/foe/press/setnws_20180221135149577096344.html
Launch vehicle	SS-520 Launch Vehicle Flight No. 5 (SS-520-5)
Other information	Launching organizations are the Japan Aerospace Exploration Agency (JAXA) and the Institute of Space and Astronautical Science (ISAS)

STARS AO (Aoi)

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

Committee on Space Research international designator	2018-084J
Name of space object	STARS AO (Aoi)
State of registry	Japan
Date and territory or location of launch	29 October 2018 at 0408 hours, 0 seconds UTC; Tanegashima Space Centre, Kagoshima Prefecture, Japan
Basic orbital parameters	
Nodal period	97 minutes
Inclination	97.84 degrees
Apogee	604.1 kilometres
Perigee	593.8 kilometres
General function of space object	Affordable orbital telescope: the mission aims to make astronomical observations from orbit at the same cost and frequency as ground-based astronomy and to realize downlink of large capacity data by amateur radio

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Nohmi Laboratory, Shizuoka University
Website	https://stars-ao.info
Launch vehicle	H-IIA Launch Vehicle Flight No. 40 (H-IIA-40F)
Other information	Launching organization is JAXA

GRUS-1A

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

Committee on Space Research international designator	2018-111Q
Name of space object	GRUS-1A
State of registry	Japan
Date and territory or location of launch	27 December 2018 at 0207 hours, 18 seconds UTC; Vostochny Cosmodrome, Russian Federation
Basic orbital parameters	
Nodal period	96.3 minutes
Inclination	97.7 degrees
Apogee	588 kilometres
Perigee	588 kilometres
General function of space object	GRUS-1A is a next-generation optical remote-sensing microsatellite. The mass is 110 kg and the ground resolution is 2.5 m

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Axelspace Corporation
Website	www.axelspace.com/en/solution_/grus
Launch vehicle	Soyuz-2.1a

RAPIS-1

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

Committee on Space Research international designator	2019-003A
Name of space object	RAPid Innovative payload demonstration Satellite 1 (RAPIS-1)
State of registry	Japan
Date and territory or location of launch	18 January 2019 at 0050 hours, 20 seconds UTC; Uchinoura Space Centre, Kagoshima, Japan

Basic orbital parameters	
Nodal period	95 minutes
Inclination	97.24 degrees
Apogee	507 kilometres
Perigee	507 kilometres
General function of space object	RAPid Innovative payload demonstration Satellite 1 (RAPIS-1) is a Japanese test satellite to demonstrate seven pieces of experimental equipment

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Owner: JAXA Operator: Axelspace Corporation
Website	www.kenkai.jaxa.jp/kakushin/kakushin01.html
Launch vehicle	Epsilon Launch Vehicle Flight No. 4 (Epsilon-4)

ALE-1

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

Committee on Space Research international designator	2019-003G
Name of space object	ALE-1
State of registry	Japan
Date and territory or location of launch	18 January 2019 at 0050 hours, 20 seconds UTC; Uchinoura Space Centre, Kagoshima, Japan
Basic orbital parameters	
Nodal period	94.53 minutes
Inclination	97.3201 degrees
Apogee	508.101 kilometres
Perigee	479.497 kilometres
General function of space object	To create an artificial meteor shower: ALE-1 contains a release mechanism that ejects 400 particles, one at a time and in a controlled fashion, that become artificial meteors when they re-enter the atmosphere ALE-1 also includes a deorbit mechanism to lower its altitude from the insertion altitude at launch, 500 km, to an operational altitude of 400 km, below the International Space Station. ALE-1 will detach the deorbit mechanism after it reaches its operation altitude The mission’s details were presented at the thirty-sixth meeting of Inter-Agency Space

	Debris Coordination Committee Working Group 4 (IADC WG4)

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	ALE Co., Ltd.
Website	http://star-ale.com/en/?ja
Launch vehicle	Epsilon Launch Vehicle Flight No. 4 (Epsilon-4)
Other information	Launched by JAXA The use of the deorbit mechanism and the initial release of the particles are planned according to the following timetable: Deorbit mechanism: April 2019–February 2020 (open, down to operational altitude, detach) Particles: March–July 2020 (subsequently, particles will be released in connection with specific events)

H-IIA Launch Vehicle Flight No. 32 Rocket Body

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

Committee on Space Research international designator	2017-005B
Name of space object	H-IIA Launch Vehicle Flight No. 32 Rocket Body
State of registry	Japan
Date and territory or location of launch	24 January 2017 at 0744 hours 0 seconds UTC; Tanegashima Space Centre, Kagoshima, Japan
Basic orbital parameters	
Nodal period	637.2 minutes
Inclination	21.0 degrees
Apogee	35,941.3 kilometres
Perigee	360.0 kilometres
General function of space object	Space object is the spent rocket body of H-IIA Launch Vehicle Flight No. 32

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Mitsubishi Heavy Industries Ltd.
Launch vehicle	H-IIA Launch Vehicle Flight No. 32
Other information	Launching organizations are Mitsubishi Heavy Industries Ltd. and JAXA

Annex II

Additional information on space objects previously registered by Japan*

WINDS (Kizuna)

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

Committee on Space Research international designator	2008-007A
Name of space object	WINDS (Kizuna)
State of registry	Japan
Registration document	ST/SG/SER.E/556 ST/SG/SER.E/556/Corr.1
Date and territory or location of launch	23 February 2008 at 0855 hours UTC; Tanegashima Space Centre, Kagoshima, Japan
Basic orbital parameters	
Nodal period	1,436 minutes
Inclination	0.05 degrees
Apogee	35,798 kilometres
Perigee	35,775 kilometres
General function of space object	Technology development, experimentation and verification to achieve ultra-high-speed Internet access in Japan and the Asia-Pacific region using the following new technology: multi-port amplifier, active phased-array antenna and onboard high-speed band switching router

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Change of status in operations	
Date when space object is no longer functional	27 February 2019 UTC
Physical conditions when space object is moved to a disposal orbit	Deorbit manoeuvre was not achieved because of loss of commanding capability Batteries and pressure systems are designed to leak before bursting, which minimizes the risk of break-up
Geostationary position	142.67 degrees East (as at 6 March 2019)
Space object owner or operator	Japan Aerospace Exploration Agency (JAXA)
Launch vehicle	H-IIA Launch Vehicle, Flight No. 14

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Other information	Launching organizations are Mitsubishi Heavy Industries Ltd. and JAXA

2013-002B

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

Committee on Space Research international designator	2013-002B
National designator	2013-002B
State of registry	Japan
Registration document	ST/SG/SER.E/674
Date and territory or location of launch	27 January 2013 UTC; Tanegashima Space Centre, Kagoshima, Japan
Basic orbital parameters	
Nodal period	95 minutes
Inclination	97.5 degrees
Apogee	525 kilometres
Perigee	517 kilometres
General function of space object	Satellite conducting missions assigned by the Government of Japan
Date of decay/re-entry/deorbit	20 February 2019

H-II Transfer Vehicle “Kounotori7” (HTV7)

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

Committee on Space Research international designator	2018-073A
Name of space object	H-II Transfer Vehicle “Kounotori7” (HTV7)
State of registry	Japan
Registration document	ST/SG/SER.E/869
Date and territory or location of launch	22 September 2018 at 1752 hours 27 seconds UTC; Tanegashima Space Centre, Kagoshima, Japan
Basic orbital parameters	
Nodal period	92.7 minutes
Inclination	51.6 degrees
Apogee	410.4 kilometres
Perigee	399.8 kilometres
General function of space object	HTV7 is an unmanned re-supply vehicle used to transport various cargoes, including research materials, replacement equipment and daily commodities to the International Space Station
Date of decay/re-entry/deorbit	11 November 2018

Additional voluntary information for use in the Register of Objects Launched into Outer Space

Space object owner or operator	Japan Aerospace Exploration Agency
Launch vehicle	H-IIB Launch Vehicle Flight No. 7 (H-IIB・F7)
Other information	After delivering cargo to the International Space Station (ISS), HTV7 was unberthed from ISS and made a controlled re-entry into the atmosphere Upon deorbit, a small re-entry capsule separated from HTV7 that also reentered the atmosphere