



TIROS SPACE INFORMATION NEWS BULLETIN



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Editor: Jos Heyman FBIS

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Comet 67P/Churyumov-Gerasimenko

The *Tiros Space Information (TSI) - News Bulletin* is published to promote the scientific exploration and commercial application of space through the dissemination of current news and historical facts.

In doing so, Tiros Space Information continues the traditions of the Western Australian Branch of the Astronautical Society of Australia (1973-1975) and the Astronautical Society of Western Australia (ASWA) (1975-2006).

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Calling card...

The Russian space programme may have ambitious projects, like its own space station and visions of crewed lunar missions, but it seems the programme also has serious deep rooted problems which extend well beyond the recent launch failures.

There are serious financial problems, not budget problems but 'financial irregularities' in the range of US\$ 1.8 billion. In this context financial regularities is just a fancy word for fraud and corruption. In particular fraud and corruption have been linked to the development of the future Vostochny Cosmodrome.

But there are also technical shortcomings. For instance, it has been reported that design bureaus still use drawing boards with "pencils in their hands" rather than digital modelling.

This technical inefficiency is also expressed by the fact that Khrunichev employs 13 times the people working at Orbital Sciences.

The above matters have been widely published but when I recently gathered details of the approximate 1062 experiments conducted on the ISS by Canada, ESA, Japan, Russia and USA on ISS, I did a quick calculation of the number of experiments conducted by each of these countries/organisations and the average length of these experiments expressed in number of Expeditions. The interesting result is in the following table. Of course these figures are very rough but they may be a cautious indication of the level of scientific commitment that Russia puts into the ISS programme and may be an indication of a different long term objective.

Country	# experiments	Average EX duration
Canada	28	3.00
ESA	182	3.16
Japan	103	3.08
Russia	210	6.24
USA	539	3.31
Total	1062	

Obviously these figures need a lot more analysis before we can make a final conclusion. Perhaps this would be a good subject for a masters of PhD degree by one of our student readers.

Jos Heyman

New Horizons

Launched on 19 January 2006, the New Horizons spacecraft is due to fly-by Pluto and Charon on 14 July 2015 at a distance of 12,500 km.

The 478 kg spacecraft carries seven instruments which have been selected to meet the basic objectives of the mission to find out what the atmosphere is made of and how it behaves, what the surface of Pluto looks like and how the solar wind interacts with Pluto's atmosphere.

The instruments are:

1. Ralph, a camera system comprising the Multispectral Visible Imaging Camera (MVIC) and the Linear Etalon Imaging Spectral Array (LEISA) to obtain high resolution color maps and surface composition maps of the surfaces of Pluto and Charon. The MVIC operates at visible wavelengths whilst the LEISA operates at infrared wavelengths;
2. Alice, an ultraviolet imaging spectrometer to probe the atmospheric composition of Pluto;
3. the Radio Experiment (REX) to facilitate all radio communications with the spacecraft but also to investigate the atmosphere by occultation observations whilst passing behind Pluto, by measuring bending of radio waves by the atmosphere from which the average molecular weight of the gas in the atmosphere and the atmospheric temperature can be determined. In addition REX is to measure the weak radio emission from Pluto whilst transmitted data can be used to derive a very accurate value for Pluto's nightside temperature;
4. the Long Range Reconnaissance Imager (LORRI), a 20.8 cm aperture telescope linked to a charge coupled device (CCD) to take images of Pluto's surface with a resolution of about 100 x 100 m;
5. the Solar Wind Analyzer around Pluto (SWAP) instrument to measure charged particles from the solar wind near Pluto to determine whether Pluto has a magnetosphere and how fast its atmosphere is escaping;
6. the Pluto Energetic Particle Spectrometer Investigation (PEPSSI) is a plasma sensing instrument that is to search for neutral atoms that escape Pluto's atmosphere and subsequently become charged by their interaction with the solar wind; and
7. the Student Dust Counter (SDC), an experiment to count and measure the sizes of dust particles along New Horizons' entire trajectory. These dust particles are believed to have been created by comets shedding material and Kuiper Belt Objects colliding with one another. SDC is managed and was built primarily by students at the University of Colorado in Boulder.

The spacecraft is powered by a radioisotope thermoelectric generator (RTG) which contains ceramic pellets of plutonium dioxide to be naturally decayed, while the heat produced from the radioactivity will be converted to energy.

The flight trajectory used a Jupiter gravity assist which occurred on 1 March 2007. A fly-by of Uranus took place on 18 March 2011 and an encounter Neptune took place on 25 August 2014.

New Horizons started taking high resolution images of Pluto in May 2015 and, at its closest on 14 July 2015, it will be able to identify features as small as a city block. It will continue to make observations for about two months. Most of the data is expected to be downloaded by October 2015.

If the mission is successful, it may be extended to include one or two encounters with Kuiper Belt Objects, which range from 40 to 90 kilometers in diameter. Such encounters could take place in 2018 and 2020

Satellite Update

Launches in June 2015

Int.Des.	Name	Launch date	Launch vehicle	Country	Notes
sub-orbital	Dragon 2 Pad Abort Test	6-May-2015	---	USA	Test
failed	Mexsat-1	16-May-2015	Proton M/Briz M	Mexico	Communications
2015-025A	OTV-4	20-May-2015	Atlas V-401	USA	Military
2015-025B	USS Langley	20-May-2015	Atlas V-401	USA	Technology
2015-025C	OptiCube-1	20-May-2015	Atlas V-401	USA	Technology
2015-025D	Psat	20-May-2015	Atlas V-401	USA	Technology
2015-025E	BRICSat-P	20-May-2015	Atlas V-401	USA	Technology
2015-025F	OptiCube-2	20-May-2015	Atlas V-401	USA	Technology
2015-025G	GEARRSAT-2	20-May-2015	Atlas V-401	USA	Technology
2015-025H	OptiCube-3	20-May-2015	Atlas V-401	USA	Technology
2015-025J	Aerocube-8A	20-May-2015	Atlas V-401	USA	Technology
2015-025K	Aerocube-8B	20-May-2015	Atlas V-401	USA	Technology
2015-025L	Lightsail-1	20-May-2015	Atlas V-401	USA	Technology
2015 026A	Direc TV-15	27-May-2015	Ariane 5ECA	USA	Communications
2015 026B	Sky Mexico-1	27-May-2015	Ariane 5ECA	Mexico	Communications

Other updates

Int. Des.	Name	Notes
1998 067FM	AESP-14	Re-entered 11 May 2015
1998 067GB	Lambdasat	Re-entered 16 May 2015
2015 021A	Dragon CRS-6	Re-entered 21 May 2015
2015 024A	Progress M-27M	Re-entered 8 May 2015

Progress launch schedule

As expected and pending the completion of the investigation of the failure of the proper deployment of Progress M-27M on 28 April 2015, Russia has revised the launch dates for the Progress cargo spacecraft.

The launch date of the Progress M-28M cargo spacecraft has now been advanced from 6 August 2015 to 3 July 2015 whereas Progress M-29M is now targeted for September 2015. This is expected to be followed by the first Progress MS spacecraft in November 2015.

The problem with Progress M-27M has been linked to a Stage 3 Steering Engine failure and Roscomos has ordered Khrunichev Space Center and its subsidiaries to:

- change materials used for the turbo pump rotor shaft manufacturing;
- revise the turbo pump rotor balancing techniques; and
- upgrade the steering engine turbo pump mount to the main engine frame, and others.

In addition deficiencies in the enterprises' Quality Management System had been identified.

Proton M/Briz M

Three Khrunichev engineers face criminal charges over the 2 July 2013 failure of a Proton M/Briz M launch vehicle because they have violated safety rules in the assembly of the launch vehicle. A fourth individual is being charged with negligence.

Falcon 9

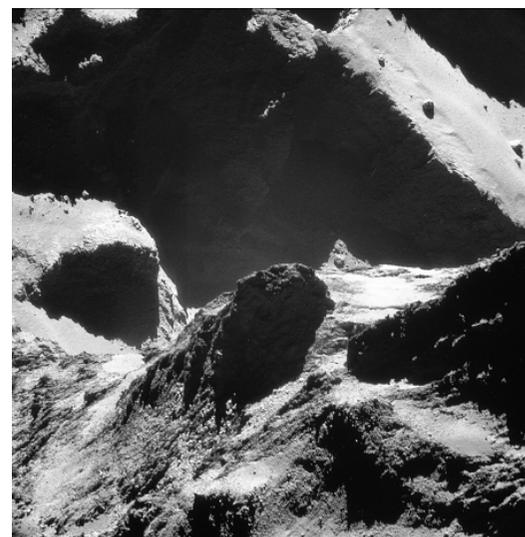
The US Air Force has now certified the Falcon 9 launch vehicle for the launch of national security and military satellites. This ends the monopoly held by the United Launch Alliance for the Delta 4 and Atlas V launch vehicles..

CST-100

NASA has placed an order with Boeing for the first operational mission with a CST-100 to ferry a crew to the ISS in late 2017.

In addition to this Boeing plans an uncrewed test flight in April 2017 and a two person crewed mission in July 2017.

Rosetta and Philea



Recently the European Space Agency published a large number of photos the landscape of comet 67P/Churyumov-Gerasimenko taken by the cameras on the Rosetta spacecraft. Some of these photos are at a distance of just 8 km.

The pictures show a landscape that is unreal but nevertheless has some familiar features.

Meanwhile, the Philea lander finally received sufficient sunlight on its solar panels on 13 June 2015 to transmit, via Rosetta, more than 300 data packets during a short period of 85 seconds.

The lander had been in an electronic hibernation since 15 November 2014, about 60 after touch down on the comet. ESA is hopeful that the lander will be able to transmit more of the 8000 data packs it

is believed to have stored in its memory.

Cancelled Projects: TacSat-1

by Jos Heyman

TacSat-1 was the first satellite in a series of microsatellites managed by the Department of Defence's Office of Force Transformation (OFT) and the Naval Research Laboratory (NRL) to demonstrate to military leaders, and in particular those in a battlefield situation, the use of satellite systems in a quick response situation and with an emphasis on selectable payloads and coverage for military conflicts at any location on Earth.



TacSat-1 was to demonstrate the use of the Secure Internet Protocol Router Network (SIPRNet), a classified military internet like network that allowed tactical control of payload and dissemination of data.

The satellite was also to provide battlefield imagery and other data from the satellite as it passed overhead, having a turnaround time of minutes. The images were to have a resolution of 1 m.

The sensor suite included a Visible Camera to provide modest resolution images. For this a HanVision HVDUO-F7 Industrial Camera was selected. This commercially available camera featured a CMOS color image sensor featuring 24 bit digital color output, 2268 x 1152 x 3 photodetectors and 3 FPS output. The spatial resolution of the data was 70 m.

The second camera was a commercially available InfraSPOT Indigo Omega infrared camera that used a microbolometer FPA, a new technology for thermal imaging that did not require cryogenic cooling, thereby reducing complexity in size, weight, and power. The camera collected radiation in the spectral range 7.5-12 μm .

The satellite was also to carry a Specific Emitter Identification (SEI) sensor to identify and capture information from items on the battlefield emitting measurable electronic signals. In particular the SEI was to be used locate ships and aircraft by listening to radio signals, following which pictures could be taken with the camera systems.

The satellite used a MicroStar platform provided by Orbital Space Corporation (OSC). In fact the platform intended to become the Orbcomm FM-29 satellite, was used and converted. This allowed the use of the avionics, solar arrays other hardware components of the unlaunched communications satellite. TacSat-1 had a diameter of 1.05 m and a height on 0.5 m. The mass was 132 kg.

The satellite was approved on 7 May 2003 and was scheduled to be flown on the first Falcon 1 launch that was to take place in 2004. Following technical problems with the satellite, it was moved to the third Falcon 1 flight which eventually flew in 2008 but without TacSat-1 which had been cancelled in August 2007. This cancellation was decided after that TacSat-2 had been launched on 16 December 2006 (with a Minotaur launch vehicle) and had demonstrated a large part of the technologies that were to be demonstrated by TacSat-1.

TacSat-1 was briefly resurrected in September 2008 and was then also referred to as TacSat-1A. It was, to be launched by the sixth Falcon 1 in 2009. But, with further flights of the Falcon 1 being deleted after the fifth flight, TacSat-1A was never further pursued.

SEP

Aerojet Rocketdyne is working on the development of an improved solar-electric propulsion (SEP) system that will make transporting cargo to Mars more affordable and efficient and cut the travel time by half. Current SEP engines generate 5 Kw and the next step in this process of development is to generate 15 Kw engines. Through clustering it is expected to generate 50 to 100 Kw.

The key to this development is how to get more energy density onto a solar cell. SEP offers propulsion that can fly nearly forever as opposed to chemical engines but this form of propulsion, which generates thrust by accelerating charged atoms and molecules out the back of a spacecraft, is limited in what it can accomplish.

Cosmic Vision #4

ESA has selected three satellite proposals for further consideration in its fourth Cosmic Vision program to study the atmospheres of exoplanets, X-ray astronomy, or fundamental plasma physics.

The proposals are

- ARIEL, a British proposal for an observatory fitted with a 90 cm infrared telescope to analyze the atmospheres of around 500 known planets circling other stars;
- THOR, a Swedish proposal for a satellite that would investigate the turbulent processes that heat up and accelerate plasma around the Earth, the sun and other stars; and
- XIPE, an X-ray observatory designed to detect emissions from supernovas, galaxy jets, black holes and neutron stars.

One of these will eventually be selected for a flight in the second half of the 2020s.

Europa Clipper

NASA has selected nine experiments for the Europa Clipper mission to the Jupiter moon Europa. The mission will undertake 45 fly-bys of the moon over a period of three years with distances ranging from 25 kilometers to 2,700 kilometers).

The experiments are:

- Plasma Instrument for Magnetic Sounding (PIMS), to determine Europa's ice shell thickness, ocean depth, and salinity by correcting the magnetic induction signal for plasma currents around Europa;
- Interior Characterization of Europa using Magnetometry (ICEMAG), a magnetometer to measure the magnetic field near Europa and – in conjunction with the PIMS instrument – infer the location, thickness and salinity of Europa's subsurface ocean using multi-frequency electromagnetic sounding;
- Mapping Imaging Spectrometer for Europa (MISE), to probe the composition of Europa, identifying and mapping the distributions of organics, salts, acid hydrates, water ice phases, and other materials to determine the habitability of Europa's ocean;
- Europa Imaging System (EIS), a series of wide and narrow angle cameras to map most of Europa at 50 meter resolution;
- Radar for Europa Assessment and Sounding: Ocean to Near-surface (REASON), a dual-frequency ice penetrating radar instrument to characterize and sound Europa's icy crust from the near-surface to the ocean, revealing the hidden structure of Europa's ice shell and potential water within;
- Europa Thermal Emission Imaging System (E-THEMIS), to provide high spatial resolution, multi-spectral thermal imaging of Europa to help detect active sites, such as potential vents erupting plumes of water into space;
- MAAss SPectrometer for Planetary EXploration/Europa (MASPEX), to determine the composition of the surface and subsurface ocean by measuring Europa's extremely tenuous atmosphere and any surface material ejected into space;
- Ultraviolet Spectrograph/Europa (UVS), to detect the likely presence of water plumes erupting from Europa's surface; and
- SUrface Dust Mass Analyzer (SUDA), to measure the composition of small, solid particles ejected from Europa, providing the opportunity to directly sample the surface and potential plumes on low-altitude flybys.

No formal launch date has been set as yet, but it would not be before 2022.

DAMPE

China plans to launch a satellite to study dark matter. Identified as the Dark Matter Particle Explorer (DAMPE), it will observe the direction, energy and electric charge of high-energy particles in space. It will be the first satellite in a program of five research satellites to study the origin of cosmic rays and observe high-energy gamma rays.

The launch is expected to take place from Jiuquan later this year.

CAS

The first flight of the Chinese CZ 6 launch vehicle, to be conducted later this year, will carry 20 small satellites, including nine so called Chinese Amateur Radio Satellites (CAS).

These have been described as follows:

- CAS-3A, a 398 x 398 x 398 mm satellite with a mass of 25 kg that will carry out atmospheric physics experiments and amateur radio missions. It will also carry two smaller satellites, CAS-3E and CAS-3F, to be released separately. These two satellites measure 116 x 116 x 116 mm and will have a mass of 1.6 kg. They carry also amateur radio payloads.;
- CAS-3B, -3C and -3D, three identical 246 x 246 x 246 mm satellites with a mass of 10 kg each which will also conduct atmospheric physics experiments and amateur radio missions;
- CAS-3G, a 2U cubesat built for educational purposes by Shenzhen Aerospace Dongfanghong HIT Satellite Ltd. together with CAMSAT;
- CAS-3H, also known as LilacSat 2, a 200 x 200 x 200 mm satellite with a mass of 11 kg for education, amateur radio communication and technology demonstration. It has been built by a team of students of Harbin Institute of Technology (HIT) and will a radio amateur transponder as well as a thermal infra-red camera. It will also test new software; and
- CAS-3I, a 98 mm x 98 mm x 7 mm satellite with a mass of 0.1 kg. It has been based on smartphone technology and was developed by the National University of Defense Technology.

At one stage it was suggested that two additional radio amateur satellites, identified as CAS-2A1 and CAS-2A2 were to be included but latest information suggests this will not be the case. The CAS-2 satellites are reported to measure 270 x 270 x 250 mm and a mass of 25 kg.

For those readers wondering about CAS-1, this name has been linked to XW-1 (2009 072B), which was launched on 19 October 2009.

ZDPS-2

The Zhejiang University, China, has built two 250 x 250 x 250 mm satellites with a mass of 12 kg each. Named Zheda Pixing (ZDPS)-2A and -B, they are included in the twenty satellites to be deployed on the first CZ 6 flight.

The main objectives of the two satellites will be to demonstrate advanced guidance, navigation and control algorithms for formation flying, evaluate the performance of an ammonia micro-propulsion system and test a dual-frequency GPS receiver.

North Korean Earth observation satellite

It has been reported that North Korea is in the process of developing a more advanced Earth observation satellite. No launch date has been published but there is speculation that it may take place in October 2015 to coincide with the 70th anniversary of the current North Korean regime.

SMILE

The Solar Wind Magnetosphere Ionosphere Link Explorer (SMILE) is a proposed joint ESA/China mission to monitor the interaction between the sun's supersonic solar wind and Earth's magnetosphere. This interaction not only generates the colorful auroral displays over Earth's poles but also has the potential to interfere with radio communications and electrical grids.

Launch is planned for 2021 and will be with a CZ 2C launch vehicle. The satellite will carry X-ray and ultraviolet imagers to observe the boundaries of the Earth's magnetosphere and auroral bands over the planet's polar regions, as well as a particle detector and magnetometer to measure plasma streaming from the sun in the solar wind and monitor the changes in the magnetic field around the satellite.

Adeline

To enable the re-use of parts the first stage of the Ariane 6 launch vehicle, Airbus has proposed the Advanced Expendable Launcher with Innovative engine Economy (Adeline)

Whilst Adeline would impose a small performance penalty, it would allow the re-use of the engine, avionics and propulsion bay of the first stage, representing 80% of the stage's economic value. These would be separated from the rest of the first stage and flown back to a conventional landing strip.



Adeline development is funded internally by Airbus and a scale model of that vehicle has already been tested.

LDSD

The second tests flight of the Low-Density Supersonic Decelerator (LDSD) test vehicle, a flying saucer shaped inflatable vehicle to investigate technologies to decelerate heavy spacecraft descending on the surface of Mars, failed on 8 June 2015, after the parachute shredded seconds after the release

The test vehicle was launched from the US Navy Pacific Missile Range at Kauai, Hawaii with a high altitude balloon that took it to an altitude of 36.5 km. There it was released and a Star 48 rocket motor took it further to an altitude of 55 km where the 30 m wide parachute ripped apart as it tried to inflate. Out of control, the test vehicle splashed down into the Pacific Ocean.

The first test took place on 28 June 2014 and a third test is planned for mid 2016 with a larger version of the test vehicle.

Sea Launch

RSC Energia intends to sell the Sea Launch a mobile maritime launch platform to China. Earlier Energia attempted to sell the platform to Israel.

Sea Launch was formed in 1995 as a consortium of four companies from Norway, Russia, Ukraine and the United States and was operated by Boeing. In 2011, after a bankruptcy, the primary ownership changed to Russia's Energia that holds a 95% interest in the company. To date a total of 36 Zenit 3SL rockets have been launched from the Sea Launch platform when positioned at Kiritimati (Christmas Island), Pacific Ocean

Arianespace

The French government has decided to sell its shares in Arianespace to Airbus Safran Launchers, a joint venture that was established last year by Airbus and rocket engine manufacturer Safran.

Airbus Safran Launchers already has 39% of the Arianespace shares whilst the French government, through the French space agency CNES, holds 35%. The remaining shares are held by smaller subcontractors in France, Germany, Belgium, Italy, Spain, Switzerland, Sweden, the Netherlands, Norway and Denmark.

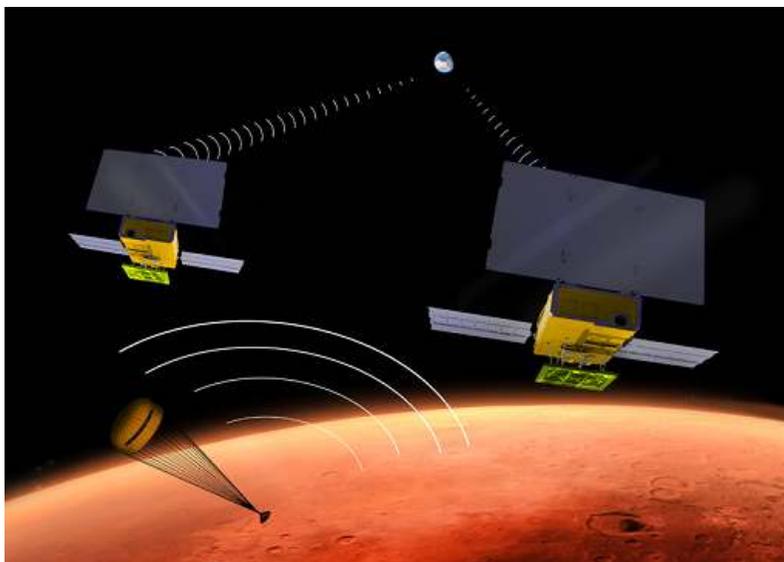
SES and Eutelsat launch service providers

The CEOs of SES and Eutelsat have indicated that they want to prevent a duopoly of SpaceX and Arianespace in the launch service industry by selecting a third launch service provider.

Apart from providing economic competition, this would also give a safeguard if one of the launch service suppliers would have a failure that would ground its launch vehicles for some months.

The preferred third launch service provider would be China but this option is limited by US technology export rules and, until those regulatory barriers are removed, the Russian Proton M and its successor the Angara, will be selected.

MarCo



The Mars InSight lander mission will be accompanied by two Mars Cube One (MarCo) which will relay signals as the lander descends through the martian atmosphere. The two satellites are based on the 6U cubesat and will measure 26.6 x 24.3 x 11.8 cm. They will be built by the Jet Propulsion Laboratory and will be released from the Centaur upper stage of the Atlas 5 launch vehicle immediately after the separation of InSight. They will fly independently to Mars and carry their own thrusters. Eight of these will be used to adjust the spacecraft's trajectory, whilst four smaller jets will control the satellites' orientation. The two satellites will not enter into a martian orbit but will, instead, fly past Mars at a distance of 3500 km and then continue on a solar orbit.

The satellites will be fitted with two extendable solar panels and a UHF receiver antenna and X-band high-gain reflector panel. The MarCo satellites are not essential for a successful landing and merely speed up the signal relay.

InSight is scheduled for launch in March 2016 and is expected to land on Mars in late September 2016. The selected site is a flat plain named Elysium Planitia.

UrtheCast

UrtheCast, the company that operates Earth observation cameras on the Russian segments of the International Space Station, plans to develop a constellation of optical and radar imaging satellites. This constellation of 16 satellites in two orbital planes, should be operational by the end of the decade. The satellites will operate in pairs, with one satellite carrying a high resolution camera and the other an L- and X-band synthetic aperture radar.

The satellites will be built by Surrey Satellite Technology Ltd. (SSTL).

OneWeb

Airbus Defense and Space has received an order to build 900 internet broadcasting satellites for OneWeb, an undertaking backed by the Virgin Group and Qualcomm.

Airbus, which up to now has built large one-off satellites, will have to upgrade its satellite manufacturing approach to complete up to four satellites a day. It is expected that the bulk of the satellites will be built in a facility to be located in the US.

The individual satellites will have a mass of 150 kg each and 648 of them will be placed in 20 orbital planes with an altitude of about 1200 km. The remaining satellites will be used as spares on the ground or in orbit. Launches are expected to begin in 2018, probably using Virgin Galactic, and the system should be operational by 2019.

BlackSky Global, Sherpa, eXCITE

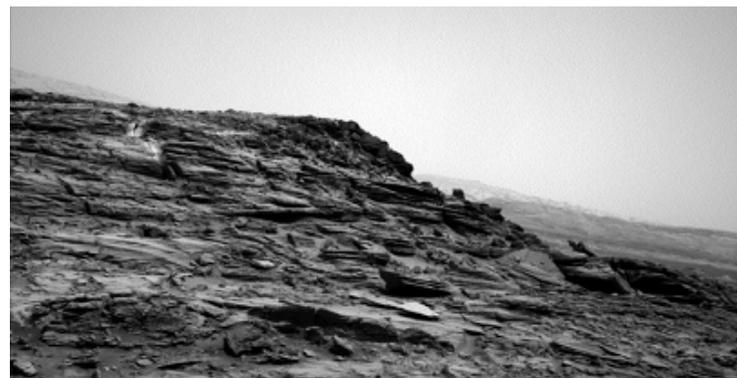
BlackSky Global is in the process of establishing a constellation of 60 satellites to provide one-meter resolution optical images.

Operating from an altitude of 450 km, each 50 kg satellite, will remain in orbit for about three years, requiring a constant replenishment of the constellation although this will also allow incorporation of improved technology.

The launch of the first two BlackSky satellites is planned for December 2015 as part of the many small satellites to be carried on a Spaceflight Services Sherpa tug which is to be placed in orbit by a Falcon 9. Another four will follow in 2016 allowing the operations to start.

Other satellites that will be carried on this first use of the Sherpa tug will be FORMOSAT-5, Arkyd-6, EcAMSat, CNUSail 1, ISARA, KAUSAT-5, SIGMA, CANYVAL-X 1, CANYVAL-X 2, and STEP Cube Lab and an, as yet, unspecified number of cubesats. Also included will be eXCITE, a 7 kg satellite built by Novaworks for DARPA's Project Phoenix. Its objective is to demonstrate the use of similar small satellites to revive old satellites and salvage parts of them for new satellites.

Curiosity



The Curiosity rover recently completed its 1000th Mars day since its landing on 6 August 2012. The rover continues to perform well and is currently in the vicinity of Mount Sharp. Sharp.

68th IAC, Adelaide 2017



Recently the logo for the 2017 International Astronautical Congress to be held in Adelaide in 2017, was unveiled.

The Space Industry Association of Australia (SIAA) is the official host of the 68th International Astronautical Congress.

The local organizing committee consists of:

- Mr Roger Franzen, Chair of the SIAA and Chair of the Local Organising Committee
- Mr Michael Davis, who is especially active in space education
- Mr David Ball, Treasurer of the SIAA
- Dr Alice Gorman, Flinders University
- Mr Jeff Kasparian
- Dr Naomi Mathers
- Mr Peter Nikoloff
- Mr (former Senator) Chris Schacht
- Mrs Mary Snitch, Lockheed Martin Corporation
- Mr Brett Biddington
- Ms Anne-Marie Quinn

This committee will be working globally to promote the overall event, promote Adelaide as a destination, encourage attendance by interested and relevant parties from around the world, liaise with national and international organisations who will participate in the exhibition being held alongside the congress and of course stage and manage an incredible event. The organising committee will be advised by and consult with Andy Thomas throughout the process.

The event will be held in the Adelaide Convention Centre in the week of 25-29 September 2017. It is expected that 3000 delegates from around the world will attend the congress.

The Lockheed Martin Corporation is the event's anchor sponsor.

The IAC2017 will most certainly focus the attention of the world on Adelaide and Australia's contribution to the latest developments in the space and astronautical industry.



The Space Industry Association of Australia (formerly the Australian Space Industry Chamber of Commerce) is a national organisation formed to promote the growth of the Australian space industry. It takes a leading role in advising government on behalf of the space industry. The association also provides a forum to promote networking and collaboration among members. SIAA consults with its members to devise policies to support the development of the Australian space industry and is active in promoting commercial, industrial and research opportunities for its members nationally and internationally.



Adelaide, the capital of South Australia, one of the Australian states, is a city that offers the physical and emotional space to breathe. There is a sense of freedom here - of expression, of movement, of thought.

Located on the Torrens River and with a population of slightly more than one million, Adelaide is the "20 minute city". The airport is only seven kilometres from Adelaide city. The Adelaide Hills and major beaches are less than half an hour away by car. That's what we call liveable!

Adelaide has a diverse cultural mix that guarantees the food is sensational. Here highly awarded fine dining restaurants exist alongside pop up bars and food trucks.

It is a city that lives well beyond its conveniently designed square mile epicentre, flowing seamlessly into world-famous wine and food regions such as the Barossa Valley, just an hour's drive north, or coastal escapes in the Fleurieu or Yorke Peninsula. You'll be spoilt for choice.

You'll love Adelaide - we do!