

# SPACE BRIEF



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### SPACE BUSINESS AND MANAGEMENT

#### Nigeria, UK firm sign \$250million satellite deal



The National Space Research and Development Agency (NASRDA) of Nigeria has contracted Menasat Limited, a UK firm, to develop a Synthetic Aperture Radar (SAR) satellite for it. According to the head of the agency, Professor Seidu Onailo Mohammed,

Nigeria resorted to this new contract as the country could not provide all the needed images for the country, especially images for the Southern part of the country. The project, called NigeriaSAR-1, is expected to be completed in 2020 and will cost \$250million.

Last year, Menasat signed a similar contract with Ghana, its first customer in Africa, for the development of Ghana's first satellite called GhanaSat-1. The project involves establishment of a data centre for receiving, processing and analysis of radar images; establishment of a ground direct receiving station; and the launch of GhanaSat-1 in 2020.

Menasat is a commercial company that sells satellite images and derivatives. According to the company, "MENASAT plans to achieve its objectives by acquiring exclusive image distribution rights for the Middle East, North Africa and South East Asia (MENASA) region from existing major in-orbit satellites operators, building regional Direct Receiving Stations, Space and Training Centres to improve services and strengthen relations with local clients and authorities, as well as completing the development and launching the Gulf Satellites Programme." Speaking at the signing ceremony of NigeriaSAR-1, the Chairman of Menasat, Hani Salem, said that "Menasat's objective is to design, build and launch four SAR earth observation satellites dedicated for Africa within the coming five years." NigeriaSAR-1 and GhanaSat-1 will form part of the Menasat Gulf Satellite Program.

#### New leadership for ESA and DLR



Johann-Dietrich Woerner, DG ESA  
Credit: ESA

Johann-Dietrich Woerner has succeeded Jean-Jacques Dordain as the Director-General of the European Space Agency (ESA) for a term of four years. He resumed duty at ESA headquarters in Paris,

France, on 1st July, 2015. Prior to his new role, Mr. Woerner was the Chairman of the Executive Board of Deutsches Zentrum für Luft- und Raumfahrt (DLR), the German space agency. ESA is a joint collaboration of 22 European countries.



Pascale Ehrenfreund  
Credit: DLR

As Professor Woerner moved to ESA, Professor Pascale Ehrenfreund resumed as the head of DLR. She was formerly a professor of space policy and international affairs at the Space Policy Institute, George Washington University, USA.

### INTERNATIONAL COOPERATION

#### Young Africans win IAF awards



Two young Africans are among the 14 winners of the 2015 Emerging Space Leaders (ESL) awards, organized by the International Astronautical Federation (IAF). They are Beza Tesfaye Zewdie (Ethiopia) and Kingsley O. Ukaegbu (Nigeria). The other winners are: Gabriel Lapilli (Argentina), Rene Michel (Bolivia), Dalin Li (China), Jesus Gonzalez (Columbia), Luis Zea (Guatemala), Siddharth Pandey (India), Norah Patten (Ireland), Sultan Assipov (Kazakhstan), Suman Gautam (Nepal), Hripsime Matevosyan (Russia), Milan Mijovic (Serbia), and Laura León Pérez (Spain). The winners will receive full sponsorship to participate in the 66th International Astronautical Congress in Jerusalem, Israel from 12 to 16 October 2015. They will also attend the UN/IAF Workshop and the Space Generation Congress, both held the week prior to the Congress.



Similarly, Ms. Lulu Makapela (South Africa) is among the six winners of the 2015 Young Space Leaders Award (YSL). This award is in recognition of her contribution to astronautics through their academic and/or professional activities; reaching out to other young people and to their community to share knowledge and experience; engaging colleagues in the international space community; and contributing to the work of IAF committees and/or volunteering in support of other Federation activities. The YSL winners will receive their awards during the Closing Ceremony of IAC2015.

## SPACE EXPLORATION

### NASA selects astronauts for first commercial flight

Since the dawn of the Space Age in 1957, space exploration and human spaceflight have been the reserve of national governments. In recent years, private companies are being engaged in this venture. In 2014, the National Space and Aeronautics Agency (NASA) selected two private companies, Boeing and SpaceX, to develop new space vehicles for ferrying US astronauts to space.

On 9 July, 2015, NASA selected the first set of astronauts that will fly via a commercial space vehicle. The veteran astronauts are Robert Behnken, Sunita Williams, Eric Boe and Douglas Hurley. They were all former test pilots before joining NASA, have flown in the space shuttle and lived in the International Space Station (ISS). They will begin training this year for their flight scheduled for 2017 using Boeing's CST-100 capsule and SpaceX Crew Dragon.

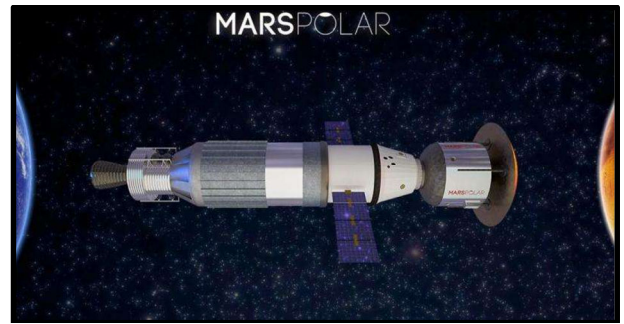


Credit: NASA  
Currently, the United States pays \$~~25 million~~ per astronaut to Russia for rides on its spacecrafts. This is expected to reduce to about \$58 million with commercial flights. The engagement of private companies will also create more jobs in the sector and strengthen US space capabilities.

### MarsPolar to establish human settlement on Mars

A new venture to establish a colony on Planet Mars by 2029 has been established. The project called 'MarsPolar', seeks to establish a human settlement on the Polar Regions of Mars where large quantities of water ice are found. According to the group, "every two years the colony will grow by interval of each successive crew of colonists (and through projected, programmed child birth of crew members creating families of colonists)." A crew of 4-6 astronauts will be sent on each trip. MarsPolar is based in Dubai, but involves scientists and engineers from Russia, the United Arab Emirates, Poland, Ukraine and the US.

A similar venture, MarsOne project, seeks to establish a colony in Mars by 2025. MarsOne is based in The Netherlands. Unlike Mars One project which is a one-way trip, Mars Polar project includes a return back to Earth after 10 years. The two ventures also differ in mission strategy and cost.



Artist's rendering of the Mars Transportation Vehicle. (Credit: MarsPolar)

### First ever mission to Pluto successful

The New Horizons spacecraft, which set off in January 2006, zoomed past Planet on Pluto 14 July, 2015. During the flyby, the spacecraft took the first high-resolution images of Pluto. As the spacecraft approached Pluto, scientists found out that the planet is much bigger than they expected; its interior is less dense; it has more ice; and it is less rocky.



Image of Pluto taken by New Horizons on 13 July, 2015

Pluto was originally regarded as the ninth planet, until 2006, when the International Astronomical Union (IAU) approved three conditions before a space object could be regarded as a planet: the object must be in orbit around the Sun; the object must be massive enough to be rounded by its own gravity; and it must have cleared the neighborhood around its orbit. Pluto failed to meet the third condition as its mass is far less than other objects in its orbit. Planets like Pluto that do not meet all the criteria are now referred to as dwarf planets.

### Upcoming activities

First MESA Forum and GMES & Africa Stakeholders Workshop and

31 August – 4 September, 2015  
Nairobi, Kenya

UN/South Africa Symposium on Basic Space Technology

1 - 4 September, 2015

University of Cape Town, Cape Town, South Africa

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