Science and Technology

In a first, ISRO will make dead rocket stage ‘alive’ in space for experiment
Indian Space Research Organisation is working on a new technology where it will use the last stage of the PSLV rocket for space experiments. It will perform a technology demonstration of this new system when it launches the PSLV C44 rocket in January.

Normally, the last stage of a PSLV rocket after releasing the primary satellite in space becomes dead and categorised as debris. It remains in the same orbit as that of the released satellite. ISRO is working on a new technology where it will give life to this “dead” last stage of PSLV, also called PS4 stage, for six months after its launch. This rocket stage will double up as a satellite. This will be the most cost-effective way to perform experiments in space as we don’t have to launch a separate rocket for the purpose. India is the only country in the world that is working on this new technology.

The rocket stage of PSLV C44, which will be carrying a microsat as the primary satellite in January, will be made alive with the help of new systems that will include batteries and solar panel. Even after the primary satellite separates from the PSLV, the last stage of the rocket will remain active and can be used as an experimental platform for new space technologies. Students or space scientists can use this “alive” rocket stage for space experiments for free.

They can attach their small experimental module or satellite (micro or nano) in the last stage and can perform experiments in space once the PSLV delivers the primary satellite into its orbit. ISRO can do the same with the GSLV rocket as well where we can use its last stage as an experimental platform.
ISRO to Launch GSAT-7A Communication Satellite

What

- India will launch its latest communication satellite, GSAT-7A from Satish Dhawan Space Centre at Sriharikota onboard the Geosynchronous Satellite Launch Vehicle GSLV-F11

Connect to GSAT 7A

- The 2,250 kg GSAT-7A is the 35th Indian Communication satellite built by ISRO. It is configured on ISRO's standard I-2000 Kg (I-2K) Bus
- The satellite with a mission life of eight years is built to provide communication capability to the users in Ku-band over the Indian region.
- Geosynchronous Satellite Launch Vehicle (GSLV), in its 13th flight, will inject GSAT-7A into a Geosynchronous Transfer Orbit (GTO).
- The satellite will be placed in its final Geostationary Orbit (GEO) using the onboard propulsion system, adding GSAT-7A will take a few days after separation from the launcher to reach its orbital slot.
- GSLV-F11 is ISRO's fourth generation launch vehicle with three stages.
- The four liquid strap-ons and a solid rocket motor at the core form the first stage of the launch vehicle, while the second stage is equipped with high thrust engine using liquid fuel
- The Cryogenic Upper Stage forms the third and final stage of the vehicle, it added.
Defence

18th IRIGC-MTC Meeting

What

- The 18th meeting of the India-Russia Inter-Governmental Commission on Military Technical Cooperation (IRIGC-MTC) was held.
- The meeting was co-chaired by Raksha Mantri Smt Nirmala Sitharaman and Minister of Defence of the Russian Federation General Sergei Shoigu.

Connect to the meeting

- In the framework of the bilateral Special and Privileged Strategic Partnership, the IRIGC-MTC meeting discussed a wide range of issues relating to defence equipment, industry and technological engagement between India and Russia as well as after sales support/upgradation of military equipment of Russian origin.
- Intensive discussions were held on joint manufacturing projects, including the Kamov-226 helicopters, naval frigates and projects related to land systems.
- The two sides also agreed to take forward inter-governmental arrangements for facilitating joint manufacturing of spares for Russian origin equipment in India, under the ‘Make in India’ initiative.
- With a view to enhancing military-to-military engagement and rationalising the functioning of the Commission, a revised Inter-Governmental Agreement on restructuring the existing IRIGC-MTC to the IRIGC on Military and Military Technical Cooperation was also signed by the two Ministers.
- The inaugural meeting of the IRIGC-MTC is proposed to be held in Russia in 2019 on mutually convenient dates.

Agreements

The Government of India and the Asian Development Bank (ADB) sign a $60 Million Loan Agreement to reduce floods and the riverbank erosion in Assam.
What

- The Asian Development Bank (ADB) and the Government of India signed a $60 Million Loan Agreement to continue financing riverbank protection works, renovation of flood embankments, and community-based flood risk management activities in critically flood-prone areas along the Brahmaputra River in Assam.

Connect to the agreement

- The Tranche 2 loan is part of the $120 million multi-tranche financing facility (MFF) for the Assam Integrated Flood and Riverbank Erosion Risk Management Investment Program approved by the ADB Board in October 2010.
- The Program is aimed at increasing the reliability and effectiveness of flood and riverbank erosion risk management systems in flood-prone areas of Assam, strengthening the disaster preparedness of the communities, and developing institutional capacity and knowledge base for flood forecasting.
- The Project 2 under the Program will fund a combination of structural and nonstructural measures in the three subproject areas of Palasbari-Gumi, Kaziranga, and Dibrugarh along the Brahmaputra river which include 20 km of riverbank protection works and upgrading of 13 km of flood embankments.
- The non-structural measures will cover community involvement and community-based flood risk management activities through establishing and training disaster management committees for strengthening local disaster preparedness and emergency response.

Minority Affairs

Bilateral Annual Haj 2019 Agreement between India and Saudi Arabia
Signed at Jeddah

What

- Union Minister for Minority Affair Mukhtar Abbas Naqvi, and Haj and Umrah Minister of Kingdom of Saudi Arabia, Dr Mohammad Saleh bin Taher Benten signed bilateral annual Haj 2019 agreement between India and Saudi Arabia at Jeddah
- It is a part of strengthened bilateral relations of the two countries.

Connect to HAJ 2019

- A large number of Muslim women are likely to go to Haj 2019 without “Mehram” (male companion).
- More than 2100 women have applied to go to Haj 2019 without “Mehram”.
- For the first time, the Centre’s Modi Government had lifted ban on women going to Haj without Mehram last year, which resulted into about 1300 Indian Muslim women went on Haj 2018 without any male companion.
- They had been exempted from the lottery system. For the first time, more than 100 women Haj Coordinators and Haj Assistants had been deployed to assist Indian women Haj pilgrims in 2018.
- The Haj Committee of India has received more than 2 lakh 47 thousand applications yet for Haj 2019. This includes about 47 per cent women. For the first time after the Independence, a record number of Muslims from India performed Haj 2018 and that too without any subsidy.

Connect to Hajj

- The Hajj is an annual Islamic pilgrimage to Mecca, Saudi Arabia the holiest city for Muslims, and a mandatory religious duty for Muslims that must be carried out at least once in their lifetime by all adult Muslims who are physically and financially capable of undertaking the journey, and can support their family during their absence.
Hajj means heading to a place for the sake of visiting. In Islamic terminology, Hajj is a pilgrimage made to Kaaba, the 'House of God', in the sacred city of Mecca in Saudi Arabia.

The rites of Hajj, which according to Islam go back to the time of Prophet Abraham who re-built Kaaba after it had been first built by Prophet Adam,[citation needed] are performed over five or six days, beginning on the eighth and ending on the thirteenth day of Dhu al-Hijjah, the last month of the Islamic calendar.

It is one of the five pillars of Islam, alongside Shahadah, Salat, Zakat and Sawm.

The Hajj is the second largest annual gathering of Muslims in the world, after the Arba’een Pilgrimage in Karbala, Iraq.

The state of being physically and financially capable of performing the Hajj is called istita’ah, and a Muslim who fulfils this condition is called a mustati. The Hajj is a demonstration of the solidarity of the Muslim people, and their submission to God (Allah).

The word Hajj means "to attend a journey", which connotes both the outward act of a journey and the inward act of intentions

Rural Development

Shyama Prasad Mukherji Rurban Mission

#TransformingIndia
Gaon Badhega, Desh Badhega
Shyama Prasad Mukherji Rurban Mission

Development of 300 village clusters as rural growth centres empowered by urban amenities and infrastructure by 2019
Connect to the mission

- The Shyama Prasad Mukherji Rurban Mission (SPMRM) is under implementation across the country.
- The Mission has progressed since the launch in 2016. Out of the mandated 300 clusters, 295 clusters have been identified and approved across 29 States and 6 Union Territories.
- SPMRM was launched on February 21st, 2016 with an outlay of Rs. 5142.08 crore. This is a unique programme, designed to deliver catalytic interventions to rural areas on the threshold of growth.
- There is a funding support of up to 30% of the estimated investment for each Rurban cluster, given as Critical Gap Funding (CGF), while 70% of the funds is mobilized by the States through convergence with synergic State and Central programmes as well as private investment and institutional funding.
- Upon being re-classified as a Centrally Sponsored Scheme, the CGF is now shared between the Centre and the State in a ratio of 60:40 for Plain area States and 90:10 for Himalayan and NE States.
- Substantial part of the works identified for development in the clusters is focused on provision of basic and economic amenities.
- Provision of basic amenities in a cluster typically comprise; provision of 24/7 Water Supply to all households, Solid and Liquid Waste Management facilities at the household and cluster level, provision of Inter and Intra village roads within the cluster, adequate Street Lights and Public Transport facilities using green technologies.
- Provision of Economic Amenities in a cluster comprise various thematic areas in the sectors of Agri Services and Processing, Tourism, and Skill development to promote Small and Medium Scale Enterprises.

Sources – PIB, The Hindu, My Gov