Embassy of India, Berne

# INDIA SCIENCE AND INNOVATION WEEKLY

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*Ask the right questions, and nature will open the door to her secrets*
*- Dr. C.V. Raman, The Nobel Prize in Physics 1930*

## IIT-Guwahati Designed & Developed Technology to Capture C02 Emissions from Power Plants

In partnership with the National Thermal Power Corporation (NTPC) Limited, researchers at the Indian Institute of Technology (IIT)-Guwahati designed and developed a technology that promises to help capture $C0_2$ emissions from power plants. The technology has been found to consume about 11% less energy compared to existing commercial methods.

## IIT Madras & STPI to Develop an Ecosystem to Identify & Support Financial Technology Start-ups

The incubation cells at Indian Institute of Technology (IIT-Madras) and Software Technology Parks of India (STPI) collaborated to develop an ecosystem to identify and support financial technology start-ups. STPI's financial technology incubator FinBlue and IIT Madras' incubation cell would jointly incubate start-ups developing solutions in financial technology.

## Ministry of S&T Minister Launched New Initiative for Clean Energy Solutions

Ministry of Science & Technology launched futuristic PPP (Public Private Participation) model initiative for clean energy with the full launch of "Mission Integrated Bio-refineries". The launch aimed at India's commitment to a low-carbon future through the cost-effective production of sustainable bio-fuels with co-production of bio-based chemicals & materials.

## Govt. to Launch EOS-02 satellite in Second Quarter of 2022

Department of Space, Govt. of India announced that Govt. of India would launch EOS-02 satellite in second quarter of 2022. Dept. of Space further added EOS-02 is Technology demonstration satellite for various new technologies with applications that include agriculture, forestry, geology, hydrology, miniaturised power electronics, reaction wheels etc. and forming the payload for SSLV-1.

## DRDO Successfully Flight-tests Solid Fuel Ducted Ramjet Technology

Ministry of Defence reported that Defence Research and Development Organisation (DRDO) successfully flight tested Solid Fuel Ducted Ramjet (SFDR) booster at theIntegrated Test Range (ITR), Chandipur. The test successfully demonstrated the reliable functioning of all critical components involved in the complex missile system and met all the mission objectives as SFDR-based propulsion enables the missile to intercept aerial threats at very long range at supersonic speeds. The performance of thesystem has been confirmed from the data captured by a number of range instruments like Telemetry, Radar and Electro Optical TrackingSystems deployed by ITR. The SFDR has been developed by Defence Research and Development Laboratory, Hyderabad in collaboration with other DRDO laboratories such as Research Centre Imarat, Hyderabad and High Energy Materials Research Laboratory, Pune.

## Special Update: INST Researchers Low Contact Resistance Metal-Semiconductor Interface

Researchers at the Indian Institute of Nanoscience and Technology (INST), an autonomous institute of the Department of Science and Technology (DST) have computationally designed a low contact resistance metal-semiconductor interface with 2D monolayers for next generation transistors, which can boost device performance. Further, INST scientists suggested new 2D semiconducting monolayers (MgX X=S, Se, Te) having high charge carrier mobility as the proposed monolayers are unique as they synergistically combine flexibility, spintronic and piezoelectric properties, making them sought after in futuristic self-powered nanoelectronics devices. The response of these new 2D monolayers to the application of vertical external electric fields can be exploited in electronic devices to store information. The computational findings are expected to motivate the experimentalists to fabricate futuristic electronic devices.