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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*

Indian Govt. approved 'National Programme on High Efficiency Solar PV Modules'

Ministry of New and Renewable Energy (MNRE), GoI, approved Production Linked Incentive (PLI) Scheme, namely, 'National Programme on High Efficiency Solar PV Modules', to enhance and increase the domestic manufacturing of solar PV cells and modules, with an outlay of INR 4,500 crore. Under the PLI Scheme, MNRE also issued provisions for supporting of setting up of integrated manufacturing units of high efficiency solar PV modules on sales of such solar PV modules. MNRE also informed that the steps taken to enhance domestic manufacturing of solar PV cells and modules is in lines of 'Make in India' initiative taken by the Indian Govt and it targets direct employment to 30,000 people and indirect jobs to 1.2 lakh people.

Indian Scientists identified genes to improve fertilizer for crop improvements

Scientists at School of Biotechnology, Guru Gobind Singh IP University, New Delhi identified candidate genes for nitrogen use efficiency (NUE) for crop improvement to save nitrogenous pollution. Scientists analysed over 16,600 genes and shortlisted "62 candidate genes"; which was further narrowed to "06 high priority target genes" for their potential to improve NUE in rice. The research was published in an Internal Journal under the title "Meta-Analysis of Yield-Related & N-Responsive Genes Reveals Chromosomal Hotspots, Key Processes, and Candidate Genes for Nitrogen-Use Efficiency in Rice"

Indian researchers developed an innovative way to manufacture hydrogen from water using magnets

IIT Bombay researchers developed an innovative way to manufacture hydrogen fuel which increases its production three times and lower the production costs by cutting the energy required to manufacture the hydrogen fuel. The production of hydrogen fuel involves electrolysis of water in the presence of an external magnetic field which led to the requirement of 19% lower energy to produce 3 ml of hydrogen. The simple approach also provides increased energy efficiency of H production. The IIT Bombay researches published the proof-of concept demonstration for producing hydrogen in *ACS Sustainable Chemistry & Engineering* journal.

DST launched Hydrogen and Fuel Cell Program and Advanced Hydrogen and FuelCell program

Department of Science and Technology (DST) to support the research on Hydrogen and Fuel Cell launched Advanced Hydrogen and FuelCell program. DST also released funds worth INR 20,38,28,770/- in FY 2019-20 and INR 83,01,158/- in FY 2020 - 21 for research and development of Hydrogen as fuel. Government of India also developed and demonstrated various hydrogen powered vehicles which includes 6 Fuel Cell buses (by Tata Motors Ltd.), 50 hydrogen enriched CNG (H-CNG) buses in Delhi (by Indian Oil Corporation Ltd. in collaboration with Govt. of NCT of Delhi), 2 hydrogen fuelled Internal Combustion Engine buses (by IIT Delhi in collaboration with Mahindra & Mahindra); 2 Hydrogen-Diesel dual fuel cars (by Mahindra & Mahindra).

Special Update: Ministry of Civil Aviation to undertake High-Tech measures to improve Aviation Sector

Ministry of Civil Aviation, GoI, confirmed that to improve and upgrade the Aviation Sector in the country, it would adopt and implement the following high-tech measures:

- In Aug. 2018, Ministry of Civil Aviation realised the policy on Digi Yatra, which provides contactless, seamless and paperless handling of passengers at airports from the entry gate of the terminal to the boarding point.
- Implementation of Biometric Boarding System (BBS) by using facial recognition technology at six airports namely - Bengaluru, Hyderabad, Kolkata, Pune, Varanasi and Vijayawada is on trial stage.
- By using modern technology, Airports Authority of India (AAI) to invest around INR 25,000 crores in next 4-5 years for expansion/ development of existing and new terminals.
- To enhance efficiency and to reduce dwell times, greater use of digital technology is being encouraged.