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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

India achieved 100 GW Milestone of Installed Renewable Energy Capacity

Ministry of New and Renewable Energy, GoI, acclaimed that India has achieved and crossed the mile-stone of 100 GW of Installed Renewable Energy Capacity. With this India ranked at 4th position in the world in terms of installed RE capacity, 5th in solar and 4th in wind in terms of installed capacity. Ministry of New and Renewable Energy, GoI also reported that India has set a target of 450 GW by 2030 and this achievement is an important milestone in India's journey towards its set target.

Researcher at IIT Bombay developed Low-cost Flexible Tactile & Wearable Sensors

Researcher at IIT Bombay with support from the Advanced Manufacturing Technologies programme of the Department of Science & Technology (DST), GoI, developed and fabricated a low-cost soft, flexible, and wearable sensors having potential applications in robotics, prosthetics, as well as minimal invasive surgery and identification of tumor/cancerous cells. The Tactile Sensors were fabricated by using low-cost polyurethane foam and nanomaterial based inks that can coat several substrates and also reduced graphene oxide (rGO) was used as the sensing material. The Flexible Tactile Sensors & technology can be used to monitor the pulse waveform of a human radial artery in real-time is aligned with the 'Make in India' initiative.

Indian scientists at NST, Mohali developed composite paper which extends shelf life of fruits

Indian scientists at the Institute of Nano Science and Technology, Mohali, an Autonomous Institute of the Department of Science and Technology, Ministry of Science and Technology, GoI, developed a composite paper made of carbon that can be used as wrappers to extend shelf life of fruits. Scientistis also confirmed that the wrapper can be reused, which is not possible with the present technology as against the conventional preservation method which relies on coating the preservative with the resin, wax, or edible polymer, which may cause chronic health problems. The Composite Paper can also benefit the farmers and food industry by extending the shelf life of fruits. This work has been published in the journal '*ACS applied materials and interface*'.

Scientists at CeNS, Bengaluru developed soft robotic actuators with enhanced photomechanical capacity from waste onion peels

Scientists at the Centre for Nano and Soft Matter Sciences (CeNS), Bengaluru developed soft robotic actuators with enhanced photomechanical capacity by using porous carbon nanoparticles from waste onion peels. The soft robotic actuators consisting of rubber-like polymer can convert a control signal into mechanical motion with bioengineering applications such as drug delivery, wearable and assistive devices, prostheses, and even artificial organs. The actuators acts as efficient traps for the illuminating low-power near-infrared (NIR) light. The Scienctists also found that actuation magnitude could be more than doubled by adding ultrathin (30 nm) gold layer, which helps in realizing bidirectional photo-controlled face-sensitive movement.

Special Update: DBT, DST, CSIR, SERB developed Global S&T Partnership in critical Areas

India through its key partnerships in emerging areas of Science andTechnology and supporting R&D focused to address the critical areas in energy, water, health and astronomy. In this regard, Ministry of Science and Technology, through Department of Biotechnology (DBT), Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR) and Science and Engineering Research Board (SERB) played a key role in developing global S&T partnerships in critical areas including energy, water, health and astronomy. With this India has emerged as a key mover of global S&T partnerships in critical areas and with other MI members has also agreed to continue its commitment for phase 2.0 for another 5 years through the Missions and Platforms for translating knowledge into deployable solutions.