

Department of Science & Technology
Monthly Report
January, 2021

I. Important policy decisions taken and major achievements during the month:

A. Science for Society

1. Two talks were organized, one on ‘*When the Sahara was green*’ and another talk on “*What does compound specific stable isotopes tell us about past environmental conditions*” by Birbal Sahni Institute of Palaeosciences (BSIP).
2. BSIP’s COVID-19 testing lab has conducted testing of more than 1.25 lakh samples since the inception of laboratory.
3. Indian Association for the Cultivation of Sciences (IACS) organized a national webinar on “Insights from the Draft of Science Technology Innovation Policy (STIP), 2020” in collaboration with Bharatiya Shikshan Mandal (Dakshinbanga Prant).
4. Raman Research Institute theoreticians have revealed the effectiveness of a sharp lockdown followed by a gradual release in containing a pandemic situation. The main result of the study points out that the best strategy to follow is one in which a sharp lockdown is imposed, followed by a gradual release based on the understanding of exponential growth of disease.
5. Hon'ble Union Minister of Health and Family Welfare, Science and Technology and Earth Sciences, Dr. Harsh Vardhan dedicated an Innovation Portal developed by National Innovation Foundation (NIF) – India to the nation. The Innovation Portal currently has 1.15 lakh innovations scouted from common people of the country.
6. In order to promote organic farming and minimizing input cost and load of chemicals in farming, field demonstrations of herbal plant protection technologies for the management of fall armyworm and aphid insects in maize and cabbage respectively were conducted by NIF at 35 farmers’ fields in Gandhinagar and Sabarkantha districts of Gujarat.
7. VigyanPrasar published S&T Efforts on COVID-19 in India – Startup Special e-Newsletter. New weekly series on Atmanirbhar Bharat “Self-Reliant India with Science” started on Science Channel.
8. Indian Academy of Sciences (IASc)-Department of Biotechnology Gandhi Lecture Series on Science and Future of Humanity" webinar series initiated by IASc.
9. National Academy of Sciences (NASI) organised webinars on ‘Current trends in Life Sciences’ and ‘Recent trends in Plant Biology’ in collaboration with other institutions/universities and National Science Academies.
10. NECTAR supported a training program for various artisans engaged in the project “Turning ‘ChareiTaba’ form of Pottery into an enterprise offering sustainable livelihood through Technology Intervention”, in Manipur.
11. Total 140 proposals were received under recently closed **call for proposal (closed on 9th January, 2021)** for Geospatial start-ups and knowledge Institutions of the Country **on ‘Geospatial Analytics for Revival and Restoring the Economic**

Growth in Post COVID-19 Scenario' issued in Collaboration with AGNi initiative (Accelerating Growth of New India's Innovations).

12. Programme Division supported the Tiecon resurgence 2021 national programme. The entrepreneurs & startups participated in the programme to decide the future course of action for innovation and entrepreneurship.
13. 25 New Projects were supported for conducting the Training Program on Innovation & Entrepreneurship i.e Women Entrepreneurship Development Programme (WEDP), Technology Based Entrepreneurship Development Programme (TEDP) & Faculty Development Programme (FDP) by Academic & Engineering Institutes.
14. An Advisory Committee meeting of New Gen IEDC (New Generation Innovation and Entrepreneurship Development Centre), established at Kuppam Engineering College, Kuppam was organized to review the progress of last one year. During last one year, 15 innovative students projects were supported in the areas of Electronics, smart city, water purification and traffic management. They also arranged interaction meeting with industry to refine the prototype for the purpose of the commercialisation. Five student teams filed the patents and two student teams setup start-ups.
15. An Advisory Committee meeting of New Gen IEDC (New Generation Innovation and Entrepreneurship Development Centre), established at RAMACHANDRA COLLEGE OF ENGINEERING was organized to review the progress of last one year. During last one year, 20 student teams applied for patents and 8 student teams are to setup startups.
16. An Advisory Committee meeting of New Gen IEDC (New Generation Innovation and Entrepreneurship Development Centre), established at Sasi Institute of Technology & Engineering, Tadepalligudem was organized to review the progress of last one year. During last one year, the five student teams applied for patents and two student teams to setup startups.
17. A community scale distillation plant was installed in Purulia block by STI Hub at Sidho Kanho Birsa University for extraction of lemon grass oil and other essential aromatic oils for socio-economic development of Tribal Communities.
18. The STI Hub at Babasaheb Ambedkar Marathwada University had developed 9 location specific technologies and 8 micro enterprises were established. Two mobile apps (sarathi and mazishala) were developed and a Village Information System was developed for all the target villages under the project.
19. A project has been initiated to address malnutrition and provide rural livelihoods in Yadgir District by creation of SHG/FPO enterprises. The project will facilitate to bring down distress sales by farmers during the post-harvest glut season and provide nutritional produce and livelihoods during the agricultural lean season.
20. Construction of Centre for Promotion of Traditional Healing System using Green Technologies (Stabilised Mud Block and Bamboo) had been completed at Upper Shillong, Meghalaya.
21. Integrated Model Villages (3Nos.) had developed in Manipur- Ex-situ fabrication of Tubular structure for Polyhouses for Longa Koireng and Jangmol Villages.

B. National Technology Mission

1. The Tripartite Agreement signed with 6 more Technology Innovations Hubs (TIHs) and the initial release of Rs.37.00 crores has also been made to Technology Innovations Hubs (TIHs) established under **National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS)**.

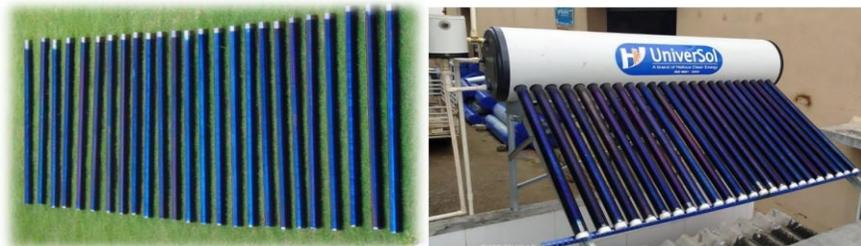
C. Technology Development

1. International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI) demonstrated the supercapacitor module for running bicycle fitted with indigenously manufactured Supercapacitors (under ARCI-HPCL Joint Project). The supercapacitors of 1200F were produced using indigenously developed porous carbon derived from petroleum coke.
2. ARCI Developed Prototype of CIGS thin film solar module (100 mm x 100 mm) in monolithically integrated configuration for mobile phone charging applications.



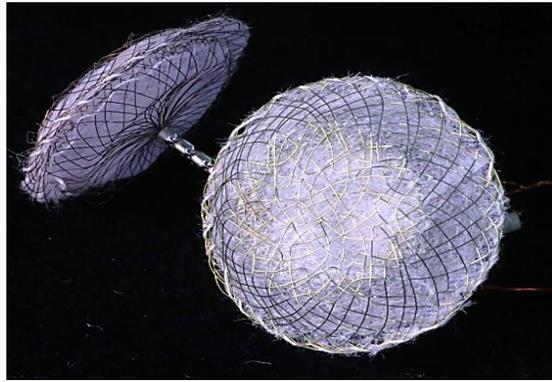
(Thin Film Solar Module)

3. ARCI Developed multiple numbers of two layers tandem solar absorber tubes (24x1m) by a cost efficient process and supplied to industry for prototype solar water heater assembly and field validation.



(Solar Absorber Tube)

4. Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum (SCTIMST) has developed two biomedical implant devices namely Atrial Septal Defect Occluder and Intracranial Flow Diverter Stents in collaboration with National Aerospace Laboratories, Bangalore (CSIR-NAL) using super elastic NiTiNOL alloys. SCTIMST also entered into Technology Transfer Agreements with M/s Biorad Medisys for these two Biomedical Implant Devices.



(Chitra ASD Occluder)

5. Screening meeting for call on Integrated Call on Material Acceleration Platform (IC-MAP) was held on 27th – 29th January 2021. A total of 203 EoIs were received under various domains such as Batteries, Supercapacitors, Thermal Storage, Biofuel/Biomass, Hydrogen and Fuel and were evaluated.
6. The activities of the project entitled “Development of a Framework and Guidelines for Spatial Data Assets Management and Applications for the Use of Uttarakhand State” by Dept. of Geography, Kumaun University, SSJ Campus, Almora, Uttarakhand lead to develop a framework and guidelines for spatial data assets management for Uttarakhand state and other allied aims towards capacity building of the State in application of GIS in urban governance, water resource management, disaster management and in policing.
7. Extension of project duration to Indian Institute of Technology Patna, Bihar was initiated to complete the project activities “Geospatial location estimation and navigation in autonomous sensor network/smart city”. The project aimed to design and develop a localization and navigation system for smart parking for malls in crowded areas and IoT connected cleaning system for cleaning staff and people.
8. Various R&D activities were supported under different schemes of the division to promote/ develop the various geospatial technologies and tools. The details are as follows:
 - R&D support was provided to CSIR-National Geophysical Research Institute, (NGRI) Hyderabad, for “Groundwater Assessment of Regional Hydrological System using Space Borne Gravity Observation”.
 - R&D support was provided to CSIR Fourth Paradigm Institute CSIR-4PI, Wind Tunnel Road, Belur, Bangalore, for “Assessment of regional hydrology using space borne gravity observation: Roust estimation of deformation due to hydrological loading in NE- India and upper Ganga River Basin”.
 - R&D support was provided to National Institute of Hydrology, Roorkee, Uttarakhand, “Assessment of Seasonal Variations in Hydrology and Cryosphere of upper Ganga Basin”.
 - Support has been provided to Centre for Development of Advanced Computing (C-DAC), Hyderabad to carry out the R&D activities for Development of Smart Parking Management System Using Sensors, IoT and GIS.

- Support has been provided to Department of Civil Engineering, National Institute of Technology, Hamirpur, for “Maintenance of Demonstration project on Geothermal Energy of Heating Space in Chumathang, Ladakh”.
- R&D support was provided to Department of Remote Sensing, Birla Institute of Scientific Research, Jaipur, for “Exploring possibility of expansion of irrigated areas through Micro Irrigation system for food security in commands of Eastern Rajasthan by Geospatial Technologies”.

D. International Cooperation

1. Participated in the 5th Meeting of the India-Belgium Joint Committee on Science and Technology held on virtual platform on 18th January 2021. The meeting was Co-chaired by Dr. SK Varshney, Head-International Cooperation Division, DST from Indian side and Ms Margarida Freire, Head of Department Federal, Interfederal and International Coordination, BELSPO from Belgian side. During the meeting, FFT Division, DST especially participated in the discussions related to major S&T policy developments relevant for the bilateral cooperation and progress of joint activities.
2. FFT Division had a discussion meeting on 29th Jan 2021 with Mika Tirronen, Counsellor of Education and Science, Embassy of Finland to get an understanding on possible domains and measures that could be explored in the field of quantum computing collaboration. During the meeting Finland presented the a few innovative quantum ecosystems and explained about the Indian quantum computer (54 superconducting qubits) could be built in India with Finnish partners.
3. A meeting held with officials from Mission Innovation (MI) member countries to discuss on objectives, scope and impact of the MI platform modules / activities and next steps for MI future opportunities for Mission Innovation Challenges.
4. A meeting held with the officials and Experts from Ministry of Power, Indian Smart Grid Forum, European Commission, Florence School of Regulation to discuss on ongoing activities and research methodologies, key challenges and future work on Smart Grids.
5. An interaction meeting held with experts from IIT Roorkee to discuss on Mission Innovation IC7: Affordable Heating and Cooling of Buildings ongoing activities and future roadmap.
6. **India-Belgium Joint Committee Meeting:** The 5th Meeting of the India-Belgium Joint Committee on Science and Technology was held on 18th January through online platform. The meeting was co-chaired by Shri SK Varshney, Head-International Cooperation Division, DST and Ms. Maragida Frieria, Head of Department Federal, Inter federal and International Coordination, Belgian Federal Science Policy Office (BELSPO) from Belgian side.

Both sides discussed S&T policy development relevant for the bilateral cooperation, reviewed the status of ongoing joint project and Astronomy cooperation. The discussion was also held on possible cooperation of various topics such as microbiological Biobanks, Geology, Cyber Security and Remote Sensing. DST and BELSO agreed to develop a joint plan for Bilateral activities to be undertaken in 2021-22 and to launch joint call for proposals.
7. **10th meeting of BRICS Science and Technology:** India has assumed the BRICS Presidency from January 2021. A series of sectoral events and meetings including Minister level and BRICS Summit will be hosted by India. In this

context, DST hosted 10th meeting of BRICS Steering Committee on Science, Technology and Innovation on 20 January 2021 to discuss agenda, priorities, deliverable and events to be organized during India's BRICS Presidency. The meeting was attended by representatives from BRICS Scientific Ministries, Foreign Missions and MEA.

The meeting primarily discussed the finalization of BRICS Calendar of scientific events and programs. All countries agreed upon taking initiatives for flagship projects in the areas which may address the challenges faced by BRICS countries. Indian side proposed that BRICS may start flagship projects in digital health and traditional medicine to take forward India's interest in this area. It was also proposed to review the progress made in the last five years (2015-2020) under the BRICS MOU, its consolidation, and streamline the BRICS cooperation in science, technology, and innovation (STI). India will develop the format for collecting tangible outcomes and circulate it to all for collecting the information. The data will be collated and analyzed to understand the trends and insights and assessment of overall health of BRICS STI cooperation and reorient the program if needed.

8. **Review meeting of India-EU water projects:** India-EU Water Cooperation programme aims to design, develop, test, and deploy affordable waste water treatment, sludge treatment, rainwater harvesting and real time water quality monitoring technologies. Projects have been funded by the Department of Science and Technology (DST) from Indian side and European Commission Directorate General of research and Innovation from EU side. About 80 research organizations including, SMEs, Industry and NGOs from India and Europe are working together under the programme. The leading Institutions from Indian side include IITs (IIT Madras, IIT Bombay, IIT Kharagpur, IIT Roorkee, IIT Guwahati), MNIT Jaipur, BITS Goa, CSIR- NEERI, and AMU, Aligarh. The current projects can be viewed as advanced and efficient systems to address the treatment of water, both waste water for reuse and drinking, respectively. Further, handling the emerging contaminants, which is posing an increased threat in recent times, has become an integral part of these programmes. Looking at the increasing demands of the user communities, real time monitoring, and corrective mechanisms has also been embedded into the system, enabling the use of technologies and tools like Artificial Intelligence and Machine Learning for decision support. Most of the pilot plants will come up in next 6-8 months and technology will be demonstrated across the country at about 30 locations using pilot plant having capacity ranging from 50-150 cubic meter per day.

E. Human Capacity Building

1. Proposals received under recently issued Call for Proposals **for DST-NGP Summer/ Winter Schools in Geospatial Science and Technology (received 120 proposals)** were thoroughly examined.
2. First Meeting of the of the reconstituted Expert Committee for 'Capacity Building And Training on Geospatial Science & Technology (Summer/ Winter School) was held virtually on 28 and 29 January 2021. The main aim of the EC meeting was to examine the proposals received in various categories under recent Call, recommend for support and provide inputs for improving the programme.
3. Initiated process for **Accordance of equivalence** of the three weeks Geospatial Summer/Winter Schools conducted by National Geospatial Programme (earlier Natural Resources Data Management System), Department of Science and

Technology, Government of India to **an Orientation Program/ refresher Course of UGC**. This will encourage the participation of teachers from college & universities and popularize the uptake of geospatial technology across our teaching institutions.

4. Support has been provided under capacity building programme for developing tools and techniques for integrated resource management and capacity building at various levels to:
 - conducting the Summer/Winter School- Training Programme on “Geospatial Technologies” Under Natural Resources Data Management System (NRDMS) programme of Department of Science & Technology, New Delhi by Department of Civil Engineering National Institute of Technology, Agartala, Barjala, Tripura-799046.
 - conducting the Summer/Winter School- Training Programme on “Geospatial Technologies” Under Natural Resources Data Management System (NRDMS) programme of Department of Science & Technology, New Delhi by Department of Architecture and Planning, National Institute of Technology Calicut, NIT Campus, Kerala, for conducting the 21- days- Training Programme on “Geospatial Technologies”.
5. **INSPIRE Awards-MANAK:** State Level Exhibition and Project (SLEP) Competition was organized by SERT, Himachal Pradesh in January 2021 wherein 29 students were selected.
6. **Vigyan Jyoti:** Four Introductory Meetings have been conducted in January 2021 with Principals and Nodal Officers of JNVs to share the vision and long-term goals of Vigyan Jyoti Program. All the VJ schools were introduced with the modified plan of action covering class IX and XI students.

Special Online Classes: In this month 101 online classes for Class XII students and 36 classes for Class XI students have been conducted to give them more clarity of concepts and skills to face the competitive examinations.
7. **Women Scientists Scheme:** Three meetings of Subject Expert Committees have been conducted for final recommendation on new proposals received under WOS-B programme. 110 projects have been recommended under WOS-B programme. Grant has been released for 73 projects under WOS-A and WOS-B programmes during January.
8. **SATYAM:** 29 projects have been recommended under SATYAM-Special Call to combat with Covid-19 pandemic.
9. **ORDC and EMRC (North-East Projects):** An Advisory Committee Meeting has been conducted on January 11, 2021 for evaluating the potential of two Centres at FEEDS, Hengbung i.e. Orchid Research Development Centre (ORDC) and Ethno-Medicinal Research Centre (EMRC) and for further guidance on market driven activities.
10. **Innovation in Science Pursuit for Inspired Research (INSPIRE) Scheme**
 - a. **INSPIRE Internship**
 - o Three INSPIRE Internship Science camp reports were settled.
 - b. **Scholarship For Higher Education (SHE):**
 - o 4129 SHE scholars received their scholarship for pursuing B.Sc./M.Sc. Degree course in basic and natural sciences.

c. **INSPIRE Fellowship:**

- About 113 ongoing INSPIRE Fellows received fellowship for pursuing Ph.D. degree.
 - One INSPIRE Fellows received their 1st year INSPIRE Fellowship instalment for pursuing Ph.D. degree.
 - Subject Expert Committee meetings of Earth and Atmospheric Sciences, Chemical Sciences, Engineering Sciences, Physical Sciences Agriculture & Veterinary Sciences, Bioscience & Biotechnology and Mathematical Sciences were organized for Level-2 evaluation of INSPIRE Fellowship applications through VC.
11. A network project study catalyzed and supported under CHORD entitled **“Impact evaluation Report on FIST Scheme”** was released in the FIST Advisory Board meeting in DST.
 12. A TAC meeting was held with UNIDO for the ongoing “India Innovation & System Survey Project”
 13. Latest issue of publication on **“Research and Development Statistics, 2019-20”** was disseminated to various stakeholders in S&T domain.

F. Scientific Infrastructure Building

1. A hairpin-like synthetic paratope (SP1, ~2kDa) reported by Bose Institute (BI). This paratope prevents the aggregation of A β monomers and reverses the preformed amyloid fibril to a non-toxic species.
2. Bose Institute (BI) conducted a study to explore the host–pathogen interaction from the perspective of human–bacteria protein–protein interaction, revealed a preferential enrichment of intra specific hubs and bottlenecks for both human and bacterial pathogens in the inter specific human–bacteria interaction.
3. Scientists of Institute of Nano Science and Technology (INST) shown that ultra-high mobility electron gas can increase information, transfer speed & data storage density in quantum devices.
4. Research conducted at Raman Research Institute (RRI) has established the in-house built quartz nanopores as a promising sensing platform for an in-depth understanding of the structural landscapes of supercoiled DNA to decipher its functional role in different biological processes. In particular, simultaneous measurement of both single-molecule DNA supercoiled conformations and enzyme-dependent bulk conformational changes was demonstrated.
5. Astrophysicists at the Raman Research Institute along with collaborator from University of Johannesburg, South Africa have modeled the spectrum and composition of ultra high-energy cosmic rays. Two populations of extra galactic sources with one population accelerating protons while the other population accelerates Helium, Nitrogen, Silicon and Iron was found to provide a good fit to the spectrum and composition data of ultra high energy cosmic rays.
6. Convex resource theory of non-Markovianity has been established by S N Bose National Centre for Basic Sciences (SNBNCBS). SNBNCBS investigated synchronization and metabolic energy consumption in stochastic Hodgkin-Huxley neurons. SNBNCBS conducted study on high-resolution spectroscopic probing of ortho- and para nuclear-spin isomers of heavy water in the gas phase.

7. Wadia Institute of Himalayan Geology established that considerable amount of sediments of $\sim 26243 \times 10^4 \text{ m}^3$ was mobilized in the Kedarnath valley and up to $50 \times 10^4 \text{ m}^3$ of legacy sediment was washed away in the Srinagar valley during the 2013 extreme hydrological event in the Garhwal Himalaya, and also Established 273-year-long ice mass loss record in the Uttarakhand Himalaya based on coherent tree-ring stable-isotope and oxygen isotope chronologies from different regional archives.
8. National Innovation Foundation (NIF)-India facilitated to validate nine herbal formulations for bio-efficacy against leaf curl disease and insect pests of chilli, all of which reported significantly low disease severity (DS), disease incidence (DI) and high yield in comparison to control. A significant decrease over control in the population of white fly and thrips was also found by NIF.
9. SERB plans to create finite number of Biosafety Level (BSL)-3 & -4 Facilities in the country, with a few meant for animals (A-BSL).
10. An autoguided system for Kodaikanal Tunnel Telescope was developed and tested by Indian Institute of Astrophysics (IIA).
11. The AstroSat/UVIT observations of Malin 1 conducted by IIA suggest scattered, recent star formation activity all over the disk, especially along the spiral arms. The central $9''$ ($\sim 14 \text{ kpc}$) region, similar to the size of the Milky Way's stellar disk, has several far-UV clumps - indicating recent star-formation activity. The high-resolution UVIT/F154W image reveals far-UV emission within the bar region ($\sim 4 \text{ kpc}$) - suggesting the presence of hot, young stars in the bar.
12. The Hon'ble Vice President of India Shri. Venkaiah Naidu visited IIA's Centre for Research and Education in Science and Technology (CREST) campus at Hoskote, Bengaluru Rural, on 29th December 2020. Two new facilities were inaugurated by the Hon'ble Vice President on this occasion, the newly built India-TMT Optics Fabrication Facility (ITOFF) and the Environment Test Facility (ETF).
13. Different project activities for establishment of Facility for Antiproton and Ion Research (FAIR), Thirty Meter Telescope (TMT) and India-based Neutrino (INO) continued. Regional Worldwide Large Hadron Collider Computing Grid (WLCG) Tier-2 facilities continued working round the clock.
14. **Fund for Improvement of S & T Infrastructure in Universities and Higher Educational Institutions (FIST):** 25th FIST Advisory Board Meeting was organized by R & D infrastructure Division. The selected Logo for FIST 2.0 was launched by Secretary, DST, who also released the detailed National Report on the FIST Impact. FISTAB endorsed and approved Rs 79.335 crores for 5 years duration for 86 Proposals in different subject areas from various academic institutions, Universities and PG Colleges for Scientific Infrastructure Building. The FIST Advisory Board Meeting (FISTAB) deliberated on various policy issues in the FIST Program. The necessity for focusing on supporting interdisciplinary problems, solution-centric and translational research, and increasing the scope for participation of industries and startups and new ideas, aiming towards Atmanirbhar Bharat was underlined at the Fund for Improvement of S & T Advisory Board (FISTAB) Meeting on January 22, 2021. The FISTAB deliberated on the need to create an ecosystem towards exploring academia-industry link-ups, involvement of start-ups in utilization of FIST facilities, and promotion of avenues for theoretical Sciences. The Meeting was attended by more than 15 distinguished scientists from R&D Institutions and Universities.

15. **Promotion of University Research and Scientific Excellence (PURSE):** The Eleventh Meeting of the Programme Management Board (PMB) on PURSE was organized in January 2021. The PMB evaluated the proposals in depth about the Scientific Merits, objectives and output of proposed research plans under PURSE. Out of total 13 Nos. Proposals short listed for presentation, four (04) Proposals were recommended for support for Scientific Infrastructure Building and strengthening the research ecosystem in the University System with varying quantum of funds.
16. **Sophisticated Analytical and Technical Help Institutes” - (SATHI)**
 - The fifth expert committee (EC) meeting held on 04th January 2021 which convened on Microsoft Teams to review the recently supported “**Sophisticated Analytical and Technical Help Institutes**” (SATHI) centres representations and for discussion about the 2nd round of selection of equipment for each SATHI facility during current FY 2020-21 to strengthen the R&D infrastructure of the Nation.
 - The 15th "SATHI Ki Baat" Meeting held on 21st January 2021, convened on Microsoft Teams to review the recently supported “Sophisticated Analytical and Technical Help Institutes” (SATHI) centres at three host institutes (IIT Delhi, IIT Kharagpur and BHU- Varanasi) and for discussion about the latest financial papers and Section-8 company formulation/ formation.
17. **Sophisticated Analytical Instrument Facilities (SAIF)**
 - *As per the recommendations of Steering Committee, funds were released to SAIF centres at Karnataka University, Dharwad & Gujarat for strengthening of R&D infrastructure at the centres. "Covid Relief Grant" to the SAIF centres to cope with the loss of revenue arising out of COVID 19 Pandemic was released to SAIF centres at Karnataka University Dharwad, Nehu Shillong, Central Drug Research Institute, Lucknow, Sophisticated Instrumentation Centre for Applied Research & Testing Gujarat & Guwahati University under this special package.*
 - Four Webinars on topics such as Mass Spectroscopy, Atom Probe Tomography, STEM etc were organized in month of January by SAIF IIT Bombay.
18. **Sharing NDR Geo-portal credentials with the NSDI Partnering Agencies:**On the recommendations of the NSDI Expert Committee on “Technologies for NSDI Applications” in its 5th meeting held on 02-05 November 2020, **the access credentials to the National Data Registry (NDR) Geo-portal along with the End User Manual developed/ prepared by NSDI have been shared with the NSDI and State SDI Partnering Agencies** for use and feedback.
19. **Training on ‘Foundation Course on Cyber-Security’:** On the direction of Hon’ble PM and with the association of the Ministry of Electronics & Information Technology (MeitY), **NSDI participated in the 5-day Training Programme on the “Foundation Course on Cyber-Security”** organized by the Centre for Development of Advanced Computing (CDAC), Hyderabad. NSDI and NDR Geo-Portal Firewall Logs are being regularly reviewed for identifying and preventing security breach.
20. **Training on ‘Block-chain Technology and Application Development’**

Considering the importance of geospatial data security in the context of the requirement of ease-of-doing business, **three officials of NSDI participated in the Training on ‘Block-chain Technology and Application Development’**

being organised by the Centre of Development of Advanced Computing (CDAC), Hyderabad. Insights gained will be used in implementing strategies for securing the Geo-portals and Data Services.

21. A team of Officers from MHA, BRO, MEA, SoI and Govt of Manipur visited Imphal in Manipur sector of Indo-Myanmar border from 21.01.2021 to 22.01.2021 under leadership of Joint Secretary (NE & BM-I) MHA in connection with resuming of fencing work between BP No 79 to BP No 81 on Indo-Myanmar International border.

G. Solar Power Generation: In view of the enhanced focus of the Government for providing energy security and tapping the renewable energy sources, a roof top solar plant (350 KWp) was commissioned on 07 January, 2019 in Technology Bhavan premises of Department of Science & Technology. Since installation and up to 12 January, 2021, the solar plant had generated a total of 6,99,984 (BF 6,74,157 + 25,827 for current period) electrical units (KWH) with corresponding savings of Rs. 59,50,000/- + Applicable taxes & other charges.
