

Government of India
Ministry of Science and Technology
Department of Science and Technology
(CDN Section)

Technology Bhawan,
New Mehrauli Road
New Delhi-110016
Dated: 12.08.2021

OFFICE MEMORANDUM

Subject: Monthly Summary to the Cabinet for the month of July, 2021.

The undersigned is directed to enclose herewith a copy of the Monthly Summary of important policy decisions taken and major achievements of the Department of Science & Technology for the month ending 31.07.2021 for information.

2. This has already been approved by Secretary, DST.

(Pulok Sen Gupta)
Under Secretary to the Govt. of India

To,

All Members of the Council of Ministers (as per Annexure-I)

Copy with enclosures, forwarded to:-

- i. Vice Chairman, NITI Aayog, NITI Bhawan, New Delhi. (vch-niti@gov.in)
- ii. The Chairman, Union Public Service Commission (chairman-upsc@gov.in)
- iii. Chief Executive Officer, NITIAayog, NITI Bhawan, New Delhi (ceo-niti@gov.in)
- iv. The Principal Secretary to the Prime Minister, Prime Minister Office, South Block, ND (pkmishra.pmo@gov.in)
- v. All members of NITI Aayog, NITI Bhawan, New Delhi. (vk.saraswat@nic.in, rc.niti@gov.in, vinodk.paul@gov.in)
- vi. Secretary to the President of India. (secy.president@rb.nic.in)
- vii. Secretary to the Vice-President of India. (secyvp@nic.in)
- viii. Principal Scientific Advisor to the Govt. of India. (vijayraghavan@gov.in)
- ix. All Secretaries to the Government of India (secy-goi@lsmgr.nic.in)
- x. The Principal Director General, Press Information Bureau, Ministry of Information and Broadcasting. (pdg- pib@nic.in)
- xi. The Director, Cabinet Secretariat, New Delhi. (cabinet@nic.in)
- xii. Shri Sanjay Kumar Mishra, Sc. 'G', DST for uploading the Monthly Summary on DST's website. (sanjaykr.mishra@nic.in)
- xiii. PSO to Secretary, DST. (anuj.tripathi@nic.in)
- xiv. AD (OL), DST for Hindi Translation (kn.singh65@gov.in)

Signed by Pulok Sengupta
Date: 12-08-2021 11:07:50
Reason: Approved

Department of Science & Technology
Monthly Report
July, 2021

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

A. Science for Society

1. Institute of Nano Science and Technology (INST), established partnership with Punjab State Council for Science & Technology to provide hands-on training and in-depth exposure of advanced training in key S&T domains to facilitate Faculty members.
2. ‘Vignettes for Success in Academia: a guide for young Researchers’ was published by Indian National Science Academy (INSA).
3. National Innovation Foundation (NIF) facilitated granting of 5 patents to its grass root innovators on :
 - Roasting Device and A Process Thereof
 - Portable Steam Based Boiler for Turmeric Rhizomes and its Operation Method
 - Improved Section and Sheet Metal Cutter
 - Herbal Compositions For Increase And Improvement of Milk Yield In Cattle
 - A Herbal Formulation to Treat Bloating
4. National Innovation Foundation (NIF) undertook the validation of turmeric variety SK-4 developed by a grassroots innovator wherein it demonstrated a higher rhizome yield per hectare, good rhizome weight and finger length which was found superior to reference varieties. It was found tolerant to leaf spot and rhizome rot diseases under field conditions.
5. A total of 110 innovations related to Engineering domain were uploaded to the Innovations portal of NIF and design improvement of three new technologies namely Multi-seed decorticator, cactus harvesting tool and Cole Crop Harvester was undertaken.
6. With respect to dissemination and social diffusion of innovative technologies, rural egg incubator, Moshtwak mosquito repellent cream and multi tree climbers were disseminated by NIF in Manipur, Tripura and Lakshadweep respectively.
7. Technology Information, Forecasting & Assessment Council (TIFAC) jointly organized a National Brainstorming meeting on “Evolving strategy for promotion of millets towards achieving nutritional security” online (Virtual mode) in association with ICAR – Indian Institute of Millets Research (IIMR), Hyderabad.
8. TIFAC and CSIR-CFTRI, Mysore has jointly prepared a draft proposal for demonstration of Mobile Fruit and Vegetable Processing Unit for value addition in North Eastern Region of India to minimize wastage and enhancing income of marginal farmers.
9. TIFAC facilitated granting of two patents on Sophorolipid based nanostructured lipid carriers targeted for drug delivery purposes to Punjab University, Chandigarh and on RFID based smart library system to College of Engineering, Perumon.
10. The 15th National Frontiers of Engineering Symposium was organized jointly by Indian National Academy of Engineering (INAE) with IIT Hyderabad as a virtual event. There were four themes for the Symposium viz Artificial Intelligence & Machine Learning; Advances in Materials & Manufacturing Technology; Infrastructure & Unconventional Energy and Rural Entrepreneurship.

11. Indian Institute of Astrophysics (IIA) summer school 2021 was held virtually, and 11 lectures and 9 tutorials/ hands-on sessions on diverse areas of Astrophysics were organized.
12. A webinar session on the occasion of World Youth Skills Day with the theme “Reimagining Youth Skills Post-pandemic” was organized at Institute of Advanced Study in Science and Technology (IASST), Guwahati to encourage youth mostly graduate and post-graduate students from different colleges and university to take up industry relevant skill training and to learn the importance of e-commerce that can help them to secure a better livelihood.

B. National Technology Mission

1. Based on the recommendations of 2nd Mission Coordination Committee (MCC) meeting of National Mission on Interdisciplinary Cyber Physical Systems (NM-ICPS) held on 21st May, 2021 under the chairmanship of Secretary, DST, a detailed proforma for Action Taken Report has been prepared and shared with 25 Technology Innovations Hubs (TIHs) for the inputs.
2. The inputs received from ministries have been incorporated in draft EFC on National Mission on Quantum Technology & Application (NM-QTA) and the same is under process.

C. Technology Development

1. Towards technology transfer, know-how document for ‘Easy to Clean Coatings (Super Hydrophobic) Sol-Composition and Coating Technique on photovoltaic panels’ was handed over by International Advanced Research Centre for Powder (ARCI) to Allox Resources LLP, Hyderabad.
2. ARCI signed technology transfer agreement for the ‘Production of Dispersion Strengthened Tungsten Plates’, with a Hyderabad based Company.
3. ARCI synthesized Mixed halide perovskite ($\text{MAPbI}_x\text{Br}_{3-x}$) single crystals (in cm sizes) by solution approach (lab-scale). Optical characterization confirmed the desired band gap of 1.7eV for top-cell in tandem solar cell application.
4. ARCI developed (at lab-scale) wear and corrosion resistant Nickel alloy coatings by pulsed electrodeposition (PED) for application on die components used in plastic ware industry. These coatings can also withstand temperatures up to 500°C.
5. ARCI developed and supplied *prototype of Solar receiver tube* (145mm OD and 900mm length) for solar cooker application, to a company for field validation.
6. A team of researchers from Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) designed a robust, mobile group oxygen concentrator named *OxyJani* that can be used in rural settings and be rapidly deployed in emergencies in any location.
7. A review meeting was held on 02nd July, 2021 through virtual to evaluate and monitor the 4 projects supported under ‘Clean Fuel Mission’ programme.
8. Review meetings were held on 07th - 8th July, 2021 through virtual to evaluate and monitor the 13 projects supported under ‘Smart Grids’ programme.

9. Review meetings were held on 20th & 22nd July, 2021 through virtual to evaluate and monitor the 13 projects supported under 'Building Energy Efficiency' programme.
10. An interaction meeting held with experts from Indian Institute of Science Bangalore to discuss the ongoing activities and future roadmap on an Integrated Approach to Development and Environment in the Power Sector.
11. Review of project on proposal for the release of administrative expenses & research grant to the India-UK Energy Demand in the Built Environment Programme involving India's Department of Science and Technology (DST) and the Engineering and Physical Science Research Council (EPSRC) and Economic and Social Research Council (ESRC) as part of the Research Councils UK (RCUK).

D. International Cooperation

1. **BRICS STI Cooperation:** Funding agencies from BRICS countries at 12th Meeting of BRICS S&T Steering Committee which was held on 8th July, 2021, agree to support multilateral research and innovation projects. The BRICS scientific Ministries officials discussed in details about the thematic areas for the this year call for proposals and unanimously agreed for collaboration in ten thematic areas. These include (i) Transient astronomical events and Deep Survey Science, (ii) Antimicrobial Resistance (AMR): Technologies for diagnosis and treatment, (iii) Simulation and big data analytics for advanced precision medicine and public healthcare, (iv) HPC and Big Data for Sustainable Development: Solving Large Scale Ecological, Climate and Pollution Problems, (v) Innovation and entrepreneurship on Photonic, Nanophotonics and metamaterials for addressing bio-medicine, agriculture, food industry and energy harvesting issues, (vi) Materials Science and Nanotechnology for addressing environmental, climate change, agricultural, food and energy issues (vii) Renewable Energy including Smart Grid Integration, (viii) Ocean and Polar Science and Technology (ix) Water Treatment Technology (x) Research in Aeronautics and Aerospace.

Further all countries agreed to thematic areas proposed by India for 6th edition of BRICS Young Scientist Conclave which will be held in Bangalore during 13-16 September, 2021. The three themes of conclave include Healthcare; Energy Solutions Cyber Physical System (CPS) and their applications.

India has also proposed developing STI led BRICS Innovation Cooperation Action Plan(2021-24) with the view to share experiences of each other innovation ecosystem and networking of innovators and entrepreneurs. The proposal has been agreed by all BRICS countries. Details for Action Plan would be worked out by BRICS Science, Technology Innovation Entrepreneurship partnership (STIEP) working Group.

2. **India-Philippines Joint Working Committee Meeting (JCM):** The first Joint Working Committee Meeting (JCM) on Science and Technology between India and Philippines was held on July 08, 2021 virtually. The Indian delegation was led by Adviser & Head of International Cooperation of the Department of Science and Technology (DST) and the Philippines delegation was led by the Undersecretary for R&D, Department of Science & Technology (DOST), Philippines. Ambassador to New Delhi, India and Indian Ambassador to the Philippines also participated overview of India Philippines collaboration.

Both sides agreed to strengthen cooperation in the area of Agriculture Biotechnology, Health & pharmaceutical Science especially in diagnostic and vaccine studies, Material Science and Information Technology through focussed R & D joint projects, workshops and exchange of researchers. India and Philippines will also work together for human capacity building by training

and fellowships. Representatives of Department of Biotechnology, Indian Council of Agriculture Research, Indian Academy of Science, IIT Kharagpur, IIT Bhilai, IIT Delhi & C-DAC participated in deliberations.

- 3. Roundtable on Water:** India- Netherlands Roundtable meeting on Water under Indo-Dutch WAH (Water, Agriculture and Health) Agenda was held on 12th July, 2021 on the virtual mode.

The Round Table was attended by experts from India and Netherlands. Welcome address was delivered by Dr. S. K. Varshney-Head, ICD from Indian side and Mr. Jaap Broersen-Netherlands Ministry of Economic Affairs and Climate Policy from Netherland side. Discussion was held on the Indo-Dutch flagship water programmes, thematic priorities, knowledge and innovation related to WAH. The modalities required to stimulate cooperation and the connection of innovation ecosystems i.e. bilateral calls were also discussed. It was established that both the countries are funding joint research for inter and trans-disciplinary researches on science and technology. Recommendations on priority areas to strengthen the science and innovation were also sought.

- 4. Project Advisory Committee (PAC) meetings:** The virtual project advisory committee (PAC) meeting in the area of Engineering & Material Sciences, Earth Sciences, Chemical Sciences, and Information & Communication Technology (ICT) were held in July for the evaluation of India-Italy, India-Portugal, India-Slovania, India-Serbia, India-Canada, and India-Japan.
- 5.** An interaction meeting held with officials from United Nations (UN) Environment Programme to discuss and identify opportunities to collaborate in the area of cooling technologies.
- 6.** A Kickoff meeting held with consortia members from India and European Union to discuss on Renewable Energy EMPOWERing European and InDIan communities (RE-EMPOWERED) and Sustainable Energy system for Achieving Novel Carbon neutral Energy communities (SUSTENANCE) projects supported under India-EU joint call on Integrated Local Energy Systems.
- 7.** Attended On-Line Meeting for India-Japan Collaboration on the Hydrogen Technologies on 28th July 2021 on the areas/issues for the collaboration in the field of Hydrogen.
- 8.** Discussion meeting on Integrated Clean Energy Material Acceleration Platform (IC-MAP) with MI IC6 Co-lead Canada was held on 8th July 2021 to conduct the Pre-MAP Workshop and to define the IC-MAP workflow.

E. Human Capacity Building

- 1. Vigyan Jyoti:** Several activities have been conducted under Vigyan Jyoti during July. A summarized view is given below:

STEM Festival: A two days Science Utsav was inaugurated on 8th July, 2021 for Vigyan Jyoti students of Class X. In addition, a Flip Book on Science & Math projects for VJ scholars of Class XI-XII was also released on the same platform. These were followed by the commencement of STEM Festival fun activities.

C-STEM Classes: Curriculum based STEM(C-STEM) classes have also been started for Vigyan Jyoti Scholars of Class X from 30th July, 2021. C-STEM classes aims to empower girl students to become thinkers and problem solvers with a practical learning approach. In these classes concepts from each chapter are being taught through experiential and practical methods.

Role Model Interaction and Special Lectures: Experts have been invited to deliver Role Model Talk for Vigyan Jyoti Scholars. Few important talks are given by: Dr. Aurobinda Panda, NIT, Sikkim on "Global Energy Scenario and Impact of Electrical Engineering in 21st Century", Dr J. K. Sisugoswami, Director, IESTT, Bhubaneswar "Change Your Words Change The World", Dr. Raghvendra, IISC, Chitradurga on "Cell Biology and Recombinant Technology", Dr B. S. Mathapati, ICMR-National Institute of Virology, Pune on "COVID-19 and Prospects of Career in Biomedical Research", Ms. Bharti, Shivaji College, University of Delhi on "Optics Lab and Instruments: An Overview", Dr. Priyanka Kumari, Shivaji College, University of Delhi on "Mathematical Modeling of an Epidemic" and Dr. Pothukuchi Harish, IIT Jammu on "How Engineering Complements Science?".

Virtual Lab Tour: This month 5 virtual lab visits have been conducted. Following departments have been visited by students virtually, Physics Department, IIT Palakkad; Translational Health Science and Technology Institute (THSTI), Faridabad; Department of Applied Chemistry, Delhi Technical University; ICMR-NIRTH, Jabalpur and Physics and Chemistry Departments, LNCT Bhopal.

Special Online Classes: During this month, 96 online classes have been conducted for Class XII VJ Scholars. Further, 12 tests have been conducted for JEE/NEET.

2. Gender Advancement for Transforming Institutions (GATI):

Endeavor towards alignment of GATI initiative with upcoming STI Policy: The GATI Working Group has been constituted to create a common linkage with an important track on Gender equity under STI policy, which will review the deliverables and provide the technical inputs related to the program. The group has met once during this month to discuss its deliverables and evolving framework of GATI.

Orientation Meeting with GATI Pilot Institutions: Orientation meeting was organized with representatives of all 30 GATI Pilot institutions. These institutions include Research Institutions, Institution of National Importance, Central Universities, State Universities, Medical Institutions, Agricultural Institutions, Deemed Universities etc. During orientation the Head of the Division has presented the overview of GATI Pilot including its need and vision to the participants.

Development of first resource document under GATI: The division has prepared and released e-Brochure, as the first resource document for Pilot institutions, which gives an overview of the whole GATI initiative.

Baseline Study: The process of Baseline study is started. Qualitative and Quantitative study analysis will be conducted for all the pilot institutions."

3. **Women Scientists Scheme:** The call for submission of application under WOS-C was closed during July and around 3831 applications have been received. In July 2021, 52 sanctions in WOS-A and 7 in WOS-B have been issued.
4. **Mobility:** A review meeting has been organized under Mobility programme on 29 July, 2021. The progress of 2 projects has been monitored by Expert Committee.
5. **CSRI-SATYAM:** Under Cognitive Science Research Initiative (CSRI), 3rd Task Force Meeting has been conducted on 19 July 2021 to review the progress made under ongoing projects. 23 PIs have participated in this meeting.

6. Outreach Activities of the WISE-KIRAN Division: Total 6 tweets have been shared by @IndiaDST on various activities of the Division during the month of July. The Tweets' details are:

1. Head, WISE-KIRAN Division participated in Rajya Sabha TV program Desh Deshantar on the theme "Vigyan Ki Padai: Bhartiya Mahilayenaage"
2. Orientation meeting organized under GATI
3. e-Brochure of GATI
4. Participation of 30 Pilot institutions in GATI orientation meeting
5. STEM Festival for class X students under Vigyan Jyoti.
6. Call for applications under WOS-C programme of DST.

7. About 150 PhD students continued their research work in different mega science projects. The output includes 1 PhD, 17 Research Publications, 11 collaborative Research Publications, 20 Conference papers, 10 Webinars and training of 49 other human resource. Prof. Kajari Mazumdar joined as CMS Physics Communication Office which is an important Leadership Role.

8. Innovation in Science Pursuit for Inspired Research (INSPIRE) Scheme

INSPIRE Internship:

- Four INSPIRE Internship Science camp completion reports were settled.

Scholarship For Higher Education (SHE):

- 453 SHE scholars received scholarship for pursuing B.Sc./M.Sc. Degree course in basic and natural sciences.

INSPIRE Fellowship:

- 121 INSPIRE Fellows received fellowship for pursuing doctoral degree programme.
- Earth & Atmospheric Sciences, Mathematical Sciences and Physical Sciences for Level-2 evaluation of INSPIRE Fellowship applications were organized through virtual mode.

INSPIRE Faculty Fellowship:

- Six INSPIRE Faculty Fellows got permanent position.

9. A virtual meeting regarding “Asia Agri Tech Challenge 2021” was held on 22nd July, 2021 with the Institute of Livelihood Research and Training (ILRT) & Value Chain Capacity Building Network (VCB-N) to discuss the possible collaboration and likelihoods of linking winners and promising partners emerged from Asia AgriTech Challenge with the programmes under SEED division for testing, promoting, and accelerating their innovations for better livelihood.

10. A virtual meeting with the UNDP was held on 13th July, 2021 regarding the establishment of Community COVID Resilience Resource Centers (CCRRCs) and Community Resilience Resource Centres (CRRCs).

11. 2nd meeting of the Advisory Committee for the State Science & Technology Programme (SSTP) web portal was held virtually on 20th July, 2021 to discuss the framework for developing a dynamic SSTP web portal.

12. Group monitoring workshops were held from 5-7th July and 26-29th July, 2021 to evaluate the outcome of completed projects and progress of ongoing projects under Tribal Sub Plan (TSP) and Scheduled Caste Sub Plan (SCSP) scheme respectively.

13. Various programmes/ exhibitions/ workshops were organized by Gujarat State Council of Science and Technology like workshop on Energy Conservation, Rocketry, Microbiology, Mathematics for Students and Solar Cooker making; Exhibition on Virtual Science, Hydroponics and Energy Science; Superstition Abolition Programme, Scientific Storytelling programme, Farmers Awareness Programme, programme on COVID-19 vaccine myth buster etc.

F. Scientific Infrastructure Building

1. Substrate-based sirtuin inhibitors target bacterial genome and RNA provides a promising approach to address bacterial resistance issues, if cellular internalisation can be achieved. N-trifluoroacetyl lysine and N-thioacetyl lysine peptides (KP 13, KP 15 and KP 24) have been designed by Bose Institute (BI) as inhibitors of bacterial sirtuins and their cell-penetrating peptide conjugates Tat KP 13, Tat KP 15 and Tat KP 24. The conjugated peptides were successfully internalised and showed signs of bacterial transcription inhibition resulting in enhanced antibacterial potency against model Gram negative and Gram positive pathogens.
2. Biofilm formation on medical implants and devices has been a severe concern that results in their impaired performance and life-threatening complications. Thus, development of novel functional coatings for infection prone surfaces with biofilm inhibiting characteristics is of prime significance considering the rapid emergence of multidrug resistant bacteria. A novel nanocomposite has been found by BI, which is derived from Graphene Oxide (GO) and a newly developed functional Ionic liquid (IL). This highly biocompatible [CV][DS]-GO nanocomposite exhibit more than four times improved antibacterial activity in comparison to bare GO against both gram negative *Escherichia coli* (*E. coli*) and gram positive *Staphylococcus aureus* (*S. aureus*).
3. To build synergy between academic institutes, labs and industries, Science and Engineering Research Board (SERB) in collaboration with GE India, has announced the launch of Fund for Industrial Research Engagement (FIRE) Initiative for research and development in technology across the areas of energy, healthcare and aviation. It intends to select highly impactful research projects in every cycle (typically once or twice a year), which have breakthrough potential at a national or global level. It will support the best researchers in academia with funding, mentoring and industry connect. The research proposals will be in one of the following themes: In Healthcare on - Remote monitoring technologies, artificial intelligence and medical devices; in gas power on --advanced materials and coatings, decarbonization; and renewable energy – on themes of optimization – simulations and advanced repair solution.
4. Sree Chitra Tirunal Institute for Medical Sciences and Technology, (SCTIMST) signed MOU with NIT Calicut on “Non-invasive measurement and monitoring of pulmonary congestion”
5. Analysis of multi-wavelength data from a γ -ray Flat Spectrum Radio Quasar type source has enabled Astrophysicists at Raman Research Institute (RRI) to model the flaring states and provide estimates for the jet power from this particular source.
6. Bacterial motion is “active”, as they move by propelling themselves with a velocity that changes direction randomly. Some bacteria, like *Myxococcus xanthus* and *Pseudomonas putida*, exhibit a unique kind of direction reversing active motion, whereby, in addition to a diffusive change of direction, the motion also completely reverses its direction intermittently. How far does such a microorganism typically disperse in a given time? How long does it take (first-passage time) to find a food source? In a recent work, theorists at the RRI have answered these crucial questions by analyzing a theoretical model of such motion.

7. Aryabhata Research Institute of Observational Sciences (ARIES) announced the call for proposals for observation with 3.6m DOT to the Indian and Belgian astronomical community.
8. An in-depth analysis done by ARIES, of a rare superluminous supernova SN 2020ank, indicates that the supernova shines with the energy borrowed from an exotic type of neutron star with ultra-powerful magnetic fields.
9. An international collaboration of astronomers, including ARIES researcher, have identified a curious occurrence of nine star like objects that appeared and vanished in a small region within half an hour in an old photographic plate.
10. Wadia Institute of Himalayan Geology (WIHG)
 - (i) Prepared the landslide susceptibility map of the Goriganga valley, Kumaun Himalaya;
 - (ii) Estimated the site response function in the Central Seismic Gap region corresponding to high-rise structures, tall structures, 3–4-storey structures, double-story structures, and single-story structures;
 - (iii) Assessed the evolution of the Pensilungpa glacier during 1990–2017 with multiple glacier parameters using field and remote-sensing data, and established its depletion rate lower than other western Himalayan glaciers;
 - (iv) Reported c.2 km thick well-exposed mantle section of Shergol ophiolite in the Indus Suture Zone, as opposed to shallow intra-oceanic arc setting;
 - (v) Established the biozones across the Himalaya that show changes in vegetation in recent decades with many high-elevation temperature sensitive plant species shifted to higher elevations.
 - (vi) Evaluated the spatial distribution of landslides and earthquake events in the vicinity of the Main Central Thrust in the Uttarakhand Himalaya.
11. The glucose-specific release of (macro) molecular cargo/drugs is demonstrated by S N Bose National Centre for Basic Sciences (SNBNCBS) in a glucose oxidase containing PVA/THDB
12. Different project activities for establishment of Facility for Antiproton and Ion Research (FAIR), Thirty Meter Telescope (TMT) and India-based Neutrino Observatory (INO) continued. Regional Worldwide Large Hadron Collider Computing Grid (WLCG) Tier-2 facilities continued working round the clock. Clearances issued to Indian industry, Vacuum Technique Private Limited, Bengaluru for production of 56 ultra-high vacuum chambers for FAIR project. Work Package Agreement for P3 prototype Actuators signed for TMT project. Indian industry, Polycab signed an Agreement with CERN for supply of Flexible Low-voltage Copper Cables, valuing up to Rs. 30 crores in the next 3 years after successful qualification of their products and the Company.
13. Programme Division participated in online meeting of Governing Board of TBI at Ambala College of Engineering, Ambala on 12th July 2021. The progress of TBI was reviewed.
14. Programme Division participated in the 54th Meeting of “Inter Ministerial Board on Startups”
15. Programme Division participated in online meeting of Governing Board of TBI at Indian Institute of Integrated Medicine, Jammu to review the progress. Valuable inputs were given by members for scaling up the progress.
16. Meeting with ARTILABS to review the progress of the TBI was organized. Discussed options for change of host organization and other options for merging the TBI with TBI at Tata trust were explored and finalized.

17. Programme Division has given call for proposal for Inclusive TBI (iTBI) program, which was ended on 9th July 2021. The queries of the applicant institutions were addressed to facilitate them while submitting the proposals. The response of the institutions has been overwhelming. Total 361 proposals have been received. Compilation of proposal data and evaluation of proposals has been initiated.
18. Programme Division has given NIDHI4COVID2.0 call of proposal for Startups, in order to seek startup solutions to tackle COVID wave 2 related challenges, NIDHI4COVID2.0. After proper due-diligence, final list of proposals to be funded has been prepared and priorities have been set. Work has also been initiated to finalise the list of startups which can be supported through balance funds of CAWACH program grant.
19. Programme Division has given call for proposal under NIDHI Accelerator Program, 58 proposals have been received from various Technology Business Incubators. The proposals are being initially screened to check the eligibility.
20. Programme Division participated in the Technical Evaluation Committee meetings for shortlisting applications under five thematic areas under DST's NIDHI4COVID 2.0. Also, second level Evaluation Committee was conducted to finalize the startups for support under NIDHI4COVID 2.0 initiative.
21. MoU between Govt of Jharkhand and Survey of India signed on 14-07-2021 for Drone based Large Scale Mapping of rural abadi area and Establishment of CORS network under SVAM-ITVA scheme.
22. MoU between Govt of Mizoram and Survey of India signed on 19-07-2021 for Drone based Large Scale Mapping of rural abadi area and Establishment of CORS network under SVAM-ITVA scheme.
23. MoU between Govt of Puducherry and Survey of India signed on 22-07-2021 for Drone based Large Scale Mapping of rural abadi area and Establishment of CORS network under SVAM-ITVA scheme.
24. Online meeting to review the progress made with regard to survey of defenceland using drone technology, under the chairmanship of Defence Secretary held on 05-07-2021 attended by Surveyor General of India.
25. Online meeting to review SVAMITVA scheme, under the chairmanship of Joint Secretary MoPR held on 07-07-2021, 09-07-2021, 13-07-2021, 22-07-2021, attended by Officials of SOI and State Revenue & Panchayati Raj Department.
26. Online meeting to discuss SVAMITVA scheme, under the chairmanship of Secretary MoPR held on 14-07-2021 attended by Surveyor General of India and Officials of SoI.
27. Online meeting to discuss SVAMITVA scheme, under the chairmanship of Joint Secretary MoPR with DC/DM of Gujarat and Dadra and Nagar Haveli & Daman and Diu held on 19-07-2021 attended by Officials of SOI and State Revenue & Panchayati Raj Department.
28. Online Meeting of on Non compliance of Public Procurement (Reference to Make in India) order 2027 under the Chairmanship of Secretary DPIIT, held on 20-07-2021, attended by Surveyor General of India.
29. Meeting of joint coordination committee under the Chairmanship of J.S.(CAO), MoD, at room No. 203, South block, New Delhi, held on 27-07-2021 Attended by Col. Vivek Malik, Director I.B.D.(SGO).

30. Online meeting to review SVAMITVA scheme, under the chairmanship of Director MoPR held on 28-07-2021 attended by Officials of SOI and State Revenue & Panchayati Raj Department.

31. **Fund for Improvement of S & T Infrastructure in Universities and Higher Educational Institutions (FIST)**

- a. The fourth interaction meeting on “Fund for Improvement of S&T Infrastructure “(FIST) was convened on 15 July, 2021 virtually by involving stakeholders associated with ongoing FIST projects. The stakeholders were apprised of the recent changes incorporated in the FIST Program which included emphasizing upon the need for optimal utilization of FIST supported equipment by operating the said facilities through multiple shifts and encourage participation of industries/ MSMEs/ Start-ups, to initiate activities pertaining to Scientific Social Responsibility, mapping the research facilities in the Indian Science & Technology and Engineering Facilities Map, submission of interest accrued in the project to Bharatkhoosh and timely utilization of grants.
- b. Necessary approval for new FIST Program Guidelines and release of FIST 2021 Program Advertisement has been sought from the concerned Competent Authorities.
- c. The R & D Infrastructure Division organized the Mid Term Review Meeting of ongoing FIST Projects sanctioned in Chemical Sciences Area on 22& 23 July, 2021. Technical and financial progress of Fourteen projects were reviewed by the Subject Expert Panel in this meeting.
- d. The R & D infrastructure Division organized Engineering & Technological Sciences review meeting during 28-30 July, 2021. A total of twenty-six ongoing projects were evaluated during this meeting.
- e. The story about the “Nano-structured self-cleaning sustainable aluminium surface which can reduce bacterial growth can have uses ranging from biomedical to aerospace using FIST funded Raman Spectrometer at Department of Physics, Shiv Nadar University, Uttar Pradesh is published in the Social Media, DST website, Twitter and Press Information Bureau.

32. **Promotion of University Research and Scientific Excellence (PURSE)**

- i. Installation and inauguration of major research facility, X-Ray Photoelectron Spectroscopy sanctioned out of DST PURSE Grant at Central Instrumentation Facility at Pondicherry University was organized on 27th July 2021.
- ii. University of Kerala organized a workshop on online demonstration of High Performance Thin Layer Chromatography which is supported by DST-PURSE Program on 12/06/2021. The Workshop was conducted for MSc, M.Phil and research scholars in the university.

33. **Sophisticated Analytical and Technical Help Institutes” - (SATHI)**

- a. The 21th "SATHI Ki Baat" Meeting was organized on 15th July 2021, convened on Microsoft Teams to review the “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 technical and financial progress and discussion on Section-8 company formulation.

34. **Sophisticated Analytical Instrument Facilities (SAIF)**

- a. SAIF Centre at Indian Institute of Technology Madras organised an on-site training for the Ultra High-Pressure Liquid Chromatograph - Quadrupole Time of Flight - High Resolution Mass Spectrometer during the period of 26th – 28th July 2021.
 - b. As a part of strengthening process of SAIF Centre at Indian Institute of Technology Madras, Gas chromatography–Mass Spectrometry (GC-MS) and UHPLC-QTOF-HRMS (Ultra High-Pressure Liquid Chromatograph - Quadrupole Time of Flight - High Resolution Mass Spectrometer) instruments were successfully installed at the SAIF centre.
 - c. SAIF centre at Sophisticated Test and Instrumentation Centre (STIC), Kochi has organized a webinar on “Matrix-assisted laser desorption ionization time-of-flight (MALDI-ToF) Spectroscopy and Applications” on 7th July, 2021.
 - d. Facility Management Committee (FMC) Meeting for SAIF centre at IISc Bangalore was organized on 27 July, 2021 to evaluate the technical and financial progress of the centre. The requirement of funds to further strengthen the activities was also discussed in the meeting.
35. **Arunachal State Geo-portal development Pre-Bid Meeting:** For the development of the State Geoportal for Arunachal Pradesh under the State SDI Initiative, a “Pre-Bid” meeting has taken place on 5.7.2021 to discuss the queries and replies of the potential bidders/vendors that is in response to the Expression of Interest (EoI) brought out by the Arunachal Pradesh State Remote Sensing Application Centre in the National/ Local dailies on 24.06.2021.
 36. **Presentation on NSDI Achievements and Future Plans to GDPDC Sub-Committee:** to Head (NGP-NSDI) has participated in the 3rd Technical Sub-Committee meeting of the Geospatial Data Promotion and Development Committee (GDPDC) that met on 15.07.2021 and presented ‘Work done by NSDI and the tasks proposed to be taken up in future’. Inputs are expected to be useful to the Sub-Committee for finalising the draft National Geospatial Policy.
 37. **Presentation on Unique Land Parcel Identification Number based on ISO/ OGC/ BIS Standards to Govt. of Karnataka:** On the request of the Additional Chief Secretary (E-Governance), Govt. of Karnataka, a presentation on “Geographic Information/Description, Identification and Sharing on Real Property Information on Location” has been made by NSDI to officials of the State E-Governance Department and Karnataka State Remote Sensing Application Centre (KRSAC), Bengaluru on 16.07.2021. Algorithmic steps for generating Unique Land Parcels Identification Number (ULPIN) designed by NSDI based on ISO/ OGC/ BIS standards and being adopted by Department of Land Resources (DoLR), Govt. of India has been discussed in detail for possible adoption by Govt. of Karnataka.
 38. **NSDI Data Content Standards Working Group Meet:** The NSDI Data Content Standards Working Group has met on 20.07.2021 to deliberate and decide on finalisation of the Content Standards on Geology, Forestry and Soils on the recommendation of the BIS Sectional Committee LITD-22. Representatives from concerned Survey Agencies have participated and recommended final documents for publication by Bureau of Indian Standards (BIS).
 39. **Interaction Meet between NSDI and NBSS&LUP Scientists:** A detailed virtual interaction meet has taken place on 28.07.2021 between NSDI and National Bureau of Soil Survey & Land Use Planning (NBSS&LUP), Nagpur to deliberate on the finalisation of the Soil Data Content Standards useful in soil data sharing. It has been decided to revise the draft document with a suitable standards-based design before seeking comments of the stakeholders for the publication of the National Standard on Soils.
