

No. Misc.1/20/2018-CDN (Vol-II)
Government of India
Ministry of Science and Technology
Department of Science & Technology
(CDN Section)

Technology Bhawan,
New Mehrauli Road,
New Delhi – 110 016

Dated: 11.12.2019

OFFICE MEMORANDUM

Subject: Monthly Summary to the Cabinet for the month of November, 2019.

The undersigned is directed to enclose a copy of the Monthly Summary of Important policy decisions taken and major achievements of the Department of Science & Technology for the month ending 30.11.2019 for information.

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



(Balram Goel)

Under Secretary to the Govt. of India

To,

All Members of the Council of Ministers

Copy with enclosures, forwarded to:-

1. The Principal Scientific Adviser to the Government of India
2. Secretary to the President of India
3. Secretary to the Vice-President of India
4. The Principal Secretary to the Prime Minister, Prime Minister Office, South Block, New Delhi – 110 011.
5. Chairman, NITI Aayog, NITI Bhawan, New Delhi.
6. Vice Chairman, NITI Aayog, NITI Bhawan, New Delhi.
7. Chief Executive Officer, NITI Aayog, NITI Bhawan, New Delhi.
8. All Members of NITI Aayog, NITI Bhawan, New Delhi.
9. The Chairman, Union Public Service Commission
10. Secretaries to the Government of India (as per list)
11. The Principal Director General, Press Information Bureau, Ministry of Information & Broadcasting
12. The Director, Cabinet Secretariat, New Delhi - 4.
13. Shri Sanjay Kumar Mishra, Sc. 'G', DST for uploading the monthly summary on DST's website.
14. Sr. PPS to Secretary, DST.

Department of Science & Technology
Monthly Report
November, 2019

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

A. India International Science Festival (IISF)

1. Department of Science & Technology (DST) in association with Department of Bio-Technology (DBT), Ministry of Earth Sciences (MoES), Department of Health Research (ICMR) & Department of Scientific & Industrial Research (CSIR) organised 5th Indian International Science Festival at Kolkata during 5-8 November, 2019. Science & technology ministers from Afghanistan, Myanmar, Maldives and Bhutan attended the event. The festival consisted of 28 events including various expos. The festival was inaugurated by Hon'ble Prime Minister Sh. Narendra Modi over video conferencing (VC) on 5th November, 2019. More than 12,000 persons including delegates participated in the event. During the festival, three Guinness World Records were also established.
2. Vigyan Samagam, a multi-venue mega science exhibition started its journey in its 3rd leg from Science City, Kolkata during the month. The event was inaugurated by Dr. Harsh Vardhan, Hon'ble Minister for Science & Technology on 4th November, 2019 through video conferencing. **Three Foreign Ministers who attended IISF from Afghanistan, Maldives and Myanmar also visited Vigyan Samagam exhibition on 6th November, 2019.** Dr. Harsh Vardhan, Hon'ble Minister for Science & Technology visited Vigyan Samagam exhibition on 7th November, 2019. From general public, 78551 persons visited Vigyan Samagam exhibition during the month.
3. **A poster on the Draft policy on Scientific Social Responsibility (SSR) was released by the Hon'ble Minister of Science & Technology** during the IISF held at Kolkata in November, 2019. A presentation before the distinguished audience was also made at the festival.
4. SEED, DST in collaboration with CSIR-CGCRI & Vibha Vani organized **National Social Organizations and Institutions Meet (NSOIM)** during India International Science Festival (IISF), Kolkata during 6-8 Nov, 2019. Technology exhibition and interactive sessions were conducted on **enabling technologies for social transformation involving 250 S&T capable civil societies** and institutions from 27 states & UTs. Special session was

organized on Technology Intervention, Innovation & Science Dissemination for New India involving CSIR, IIT-D, NISCAIR, Vigyan Prasar, Core Groups & other Knowledge Institutions to orient and mentor participating organizations in technology driven Sustainable Development Growth at the grassroots level.

5. The Second **State Science and Technology Ministers' Conclave was held at IISF** in the presence of Hon'ble Minister of State for Environment, Forest and Climate Change and S&T, Shri Babul Supriyo and State S&T Ministers from Assam, Tripura, Madhya Pradesh, Odisha and Puducherry on 6th November, 2019. Officials from 20 States and Union Territories exchanged the **best practices for development of State Level S&T ecosystem and challenges faced** by them.
6. Assistive Technologies (AT) and Divyangjan conclave and Expo was held for the first time during IISF 2019. More than 100 participants comprising of divyangjan, researchers, industry, practitioners, NGOs and Government deliberated on the unmet needs of Divyangjan and called for innovative approaches to develop an enabling ecosystem.

B. Science for Society

1. **Mr. Erik Jacquemyn, UNESCO Kalinga Awardee for Science Popularization 2017 was conferred with Kalinga Chair by Secretary, DST** on 18th November 2019 at Technology Bhawan, New Delhi which covers travel to India, interaction with science communicators at different places and a cash award of US \$ 5,000.
2. **Mr. Erik Jacquemyn was accorded public reception by Hon'ble Chief Minister of Odisha** on 26th November 2019. He delivered lectures for students at Rajasthan University on 21st November 2019, Silicon Institute of Technology, Bhubaneswar on 27th November 2019, and Meerut University on 30th November, 2019.
3. Department of Science and Technology organised Industry Academia Conclave on Energy Storage at MNIT Jaipur on 30th November, 2019 to focus on multiple aspects of the **energy storage technology and its industry applications**.
4. A meeting on Technology Solutions for Mitigating Air Pollution was organised on 13th & 20th November, 2019 at IIT Delhi to **discuss about the smog tower proposal**. It was recommended that the tower could be useful for sensitive areas such as hospitals, schools etc.
5. A meeting on Technology Solutions for Mitigating Air Pollution was organised on 20th November, 2019 at IIT Delhi to discuss about the ongoing project entitled "**Traffic Junction Air Pollution Abatement Plan (WAYU)**". WAYU, the air purification devices are

designed for limited area air cleaning (Particulate Matter) for places like traffic junction. WAYU installation at traffic junction has been completed to understand the need and requirement of these devices with respect to pollution loading, cleaning frequency, automation needs etc.

6. Department of Science and Technology (DST) has organised a meeting with, IIT Delhi, Thermax Limited, Pune on 21st November, 2019 at DST for the project entitled "**Methanol Production from Indian Coal: pilot Plant Demonstration, Catalysis and Scale-up Technologies**" to discuss about the Status & Action plan for ongoing methanol project.
7. A Meeting held with IIT Hyderabad, NIT Goa, and IIT Jammu on 24th November, 2019 at NIT Goa, Goa for the project entitled "**Energy Efficient Lighting with Visible Light based Communication and Power Line Communications**" to discuss about the Status & Action plan for ongoing Building Energy Efficiency project.
8. Review meeting of the ongoing projects was organised during 25-26 November, 2019 at DST, Technology Bhawan, New Delhi. Experts evaluated 20 ongoing projects and 15 completed projects including projects on Women Technology Parks and Women Health & Nutrition.

C. National Technology Mission

1. **2nd National Consultative Meeting for DPR formulation of National Mission on Quantum Technologies and Applications (NM-QTA)** was held on 5-6 November, 2019 at IISER, Trivandrum, Kerala. Nearly 55 participants attended the meeting comprising of academicians, Scientists from National labs and organizations like SSPL, DRDO etc, industrialists and various other stakeholders. The **theme for discussion was Quantum Computing and Simulations.**
2. **3rd National Consultative Meeting for DPR formulation of National Mission on Quantum Technologies and Applications (NM-QTA)** was organised on 22-23 November, 2019 at IISER, Mohali, Punjab. Nearly 45 participants attended the meeting comprising of academicians, Scientists from National labs and organizations like SSPL, DRDO etc, industrialists and various other stakeholders. The **theme for discussion was Quantum Communications.**
3. The File related to Standing Finance Committee (SFC) on "**Technology Fusion and Application Research (TFAR)**" programme has been submitted to the Office of the Hon'ble Minister of Science & Technology and Earth Sciences for approval.

D. Technology Development

1. Work related to updation of Financial information in e-PMS System has been completed and hence, IF(D) diary number will now be obtained from e-PMS, in future. PMU, DST will facilitate the required hands on training for all the users including IF(D) officials of DST on e-PMS financial updation system and diary number generation.

E. International Cooperation

1. **8th GITA Foundation Day:** The 8th foundation day of Global Innovation and Technology Alliance (GITA) was **inaugurated by Dr. Harsh Vardhan, Hon'ble Minister of Health & Family Welfare, Science & Technology, Earth Sciences** on 28th November, 2019. Fifteen successful projects from a range of areas including **smart transport management to biomedical technologies and smart water quality monitoring solutions** were supported by GITA were recognized and felicitated.
2. **Overseas S & T Ministers and Diplomats Conclave (OMDC):** The Overseas S & T Ministers and Diplomats Conclave (OMDC) on the theme '**S & T policy as a driver for Social change/Socio-economic development**' was organized as a part of the 2019- India International Science Festival (IISF) in Kolkata on November 5, 2019.
3. **India Germany Cooperation:** The 5th edition of the Inter-Governmental Consultations between India and Germany was held on 1st November, 2019 in New Delhi. **The Indian and German high level delegations led by Prime Minister of India Mr. Narendra Modi and German Chancellor Ms. Angela Merkel** discussed on Indo-German cooperation including education, research and business cooperation between two countries.

Both the countries took this opportunity to sign a Joint Declaration of Intent to launch a dedicated research cooperation on **Artificial Intelligence addressing several societal issues pertinent to cyber security etc.** India encompasses all the elements including Artificial Intelligence, IoT etc.

4. **Global Indian Scientists and Technocrats (GIST):** GIST meet was held on 6th November at Kolkata under IISF 2019 on "**Disruptive technologies and opportunities of artificial intelligence and its applications**". About 10 Indian scientists from various parts of world participated in the event and shared their experience.

5. DST -ICMR- -AMED workshop on future Indo-Japan collaborations in Medical Sciences

was organised on 27th November 2019, a range of areas including smart transport management to biomedical technologies and smart water quality monitoring solutions (ICMR). Research themes identified for future collaboration included interoperable platform for data management under Information and Communication Technology (ICT) and its applications for early detection of cancer, air pollution and cancer, innovative medical devices, collaboration for zoonotic infections, etc.

6. 64th meeting of the Scientific Council (SC) meeting of the Indo-French Centre for

Promotion of Advanced Research was held at Bhubaneswar during November 18-21, 2019. The SC recommended 14 proposals for support in the areas of Pure & Applied Mathematics (2), Computational Science (2), Life & Health Sciences (3); Pure and Applied Physics (3); Pure and Applied Chemistry (1); Earth and Planetary Sciences (1); Materials Science (2). In addition, Council recommended holding of 2 Seminars in the area of Astro Physics and Chemical Sciences out of 6 proposals received.

7. The India Sweden Cooperation: Ambassador of Sweden to India Mr. Klas Molin visited DST on November 22, 2019 and held discussions with Secretary DST Prof. Ashutosh Sharma ongoing cooperation between two countries.

8. The Second meeting of the India-Denmark Joint S&T Committee was held on 22nd November, 2019. The Joint Committee confirmed support to 5 ongoing joint research proposals against the first joint call in the areas of Energy and Water, launch of second joint call for proposals in the area of Cyber Physical System and Bioresources & Secondary Agriculture and organize joint workshops.

9. Visit of Finnish Delegation led by Mr Jari Gustafsson, Permanent Secretary, Ministry of Economic Affairs and Employment, Finland visited DST on 22nd November, 2019 for a meeting with Secretary DST. During the meeting discussion was held to upgrade the level of ongoing cooperation between the two countries.

10 India-ASEAN S&T Collaboration:

- The 2nd editions of ASEAN-India Grass-root Innovation Forum and ASEAN-India InnoTech Summit were held in Davao, Philippines during 20-22 November, 2019 under ASEAN-India Science & Technology Development Fund (AISTDF) of Govt. of India, for promotion of ASEAN-India Innovation Platform by pooling and sharing the technologies and Innovations between ASEAN member states and India.

11 BRICS Science, Technology and Innovation Cooperation:

- **The 4th BRICS Young Scientist Conclave was held in Rio de Janeiro, Brazil** during November 7-9, 2019. During the Conclave BRICS Young Innovator Prize Competition was also held. **Indian Ph.d student** from **National Dairy Research Institute (NDRI)**, Bangalore Mr. Ravi Prakash **won the First Prize worth US\$ 25000** at the 4th BRICS Young Scientist Forum Conclave- 2019 for inventing an affordable indigenously designed milk chilling unit for small to marginal rural dairy farmers.
- ICAR-NDRI and National Dairy Development Board, India is collaborating to translate this technology to the grass root level.

12. Towards building up a collaborative study project on Technology Foresight between Russia and India, Technology Information, Forecasting & Assessment Council (TIFAC) participated an **International Advisory Board meeting of Institute for Statistical Studies and Economics of Knowledge (ISSEK), Higher School of Economics (HSE) Moscow, Russia** on November 20, 2019.

F. Human Capacity Building

1. Against the open Call for Proposals (CFP) for conducting training programmes, workshops, conferences and Advanced/emerging technologies awareness programme at school level students under Schedule Caste Sub-Plan (SCSP)/Tribal Sub-Plan (TSP), total of 1049 proposals were received at on-line on the last date i.e. 30th November, 2019 on the following broad thematic areas:
 - Data Science, Big Data Analytics and Predictive Analytics
 - Machine Learning, Deep Learning, Artificial Intelligence, Advanced Communication Systems
 - Internet of Things, Sensor Networks, Robotics
 - Cyber Security and Block Chain Technology
2. Department of Science and Technology has signed agreement with the UNIDO for the launch of the India Innovation and System Survey, 2019.
3. The Indo-Italian Elletra Beamline User Meeting and Outreach programme was held at All India Institute of Medical Sciences, New Delhi during November 11-12, 2019 with participation of 120 persons. The event was inaugurated by Prof. Ashutosh Sharma, Secretary, DST. Prof. Sekhar Mande, DG, CSIR was the guest of honour.

G. Scientific Infrastructure Building

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

- a) Three on the spot visits in FIST 2019 in Engineering Sciences Area at Department of Metallurgical and Materials Engineering, IIT Roorkee, Department of Metallurgical Engineering, IIT BHU Varanasi and Department of Metallurgical and Materials Enngg, IIT Chennai were performed by the Expert Team and evaluated for the requirement of funds.
- b) The FIST Advisory Board Meeting (FISTAB) was held in November 2019. A total of 95 proposals were recommended in seven subject areas including PG Colleges funding with an amount of Rs 120.94 Crores for a duration of 5 years for Scientific Infrastructure Building.

2. "Sophisticated Analytical and Technical Help Institutes"- (SATHI)

The interaction meeting of SATHI program (***SATHI Ki Baat***) was organized in November 2019. Secretary, DST addressed and interacted with respective heads, coordinators and other associates from host institutes for its proper implementation..

3. A **poster on the Draft policy on Scientific Research Infrastructure Sharing Maintenance and Network (SRIMAN) was released by the Hon'ble Minister of Science & Technology** during the IISF held at Kolkata in November, 2019. A presentation before the distinguished audience was also made at the festival.
4. The design and development of in-kind items for Facility for Antiproton and Ion Research (FAIR) and Thirty Meter Telescope (TMT) projects is in progress. For TMT project, **20 Actuators sent to Project Office, TMT at USA continued undergoing life tests at Jet Propulsion Laboratory, USA.**
5. TV 2035 Team delivered talks on '**Long-term Technology Foresight in India - A Case Study**' in the Annual International Academic Conference on Foresight & STI Policy on November 22, 2019.
6. A new technology foresight study titled '**Micro Nano Manufacturing**' has been initiated by TIFAC. This foresight study would cover the current status, different micro nano manufacturing processes, identify gaps in terms of technology, infrastructure and skillsets, future trends and opportunities along with policy interventions.

7 TIFAC has been assisting the Office of the Principal Scientific Adviser (PSA) to the Government of India as a knowledge partner in the initiative on Electric Road Systems and Opportunity Charging of Electric Buses. TIFAC Scientist visited Sweden as a part of a delegation from the Office of the PSA during 11-15 November 2019 to explore **possibilities of a collaborative project involving Swedish and Indian partners for design and demonstration of appropriate solution in India**. As a follow up action, TIFAC has also developed a simulation model for analyzing opportunity charging of electric buses.

H. Solar Power Plant in DST

1. The roof top solar power plant in Technology Bhavan premises of 350 KWp which was commissioned on 07 Jan., 2019 has cumulative power generation and the corresponding savings as follows:

A	B		C	D	E	F
Sl No.	Period		Solar Generation in KWp cumulative	Unit Rate in Rs. Excluding taxes & other charges	Savings excluding taxes and other charges in Rs.	Remarks
	From	To				
A	07.01.2019	05.11.2019	273433	@Rs.8.50	23,24,181	