

**Government of India**  
**Ministry of Science and Technology**  
**Department of Scientific and Industrial Research**  
**Technology Bhawan, New Mehrauli Road, New Delhi-110016**

No. CSIR-HRDC/IMOC(SERB)2020

Date 09-07-2020

**Subject: DSIR Accelerate Vigyan Programme: Participation of DSIR in 'Accelerate Vigyan' scheme of Science and Engineering Research Board (SERB), Ministry of Science and Technology**

**Office Memorandum**

1. On the recommendations of Group of Secretaries, SG08, SERB is steering 'Accelerate Vigyan' Scheme with aim to augment high-end scientific research in the country. The scheme was approved in 2017 which strives to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and knowledge based economy. The scheme has following three broad goals:
  - (i) Consolidation/ Aggregation of all scientific training programmes funded by respective departments;
  - (ii) Initiating high-end orientation workshops; and
  - (iii) Creating opportunities for research internships
  
2. Secretary, DSIR and DG, CSIR is pleased to approve the following:
  - (i) CSIR-Human Resource Development Centre, Ghaziabad to act as Nodal agency of DSIR for 'Accelerate Vigyan' programme of SERB;
  - (ii) To bring all the training programmes, high-end workshops/ seminars, winter/ summer schools, other scientific outreach activities, research internship programmes (duration of 5 days or more) under the umbrella programme DSIR Accelerate Vigyan Programme (DAVP). DAVP may be considered to be part of high-end S&T skill programmes of 'CSIR Skill India Initiative';
  - (iii) "The PI/ Event Organizer (EO) should register the event (scientific outreach activities, training programs, seminar, symposia, workshops etc.) in Accelerate Vigyan (AV) scheme's web-portal i.e., [www.acceleratevigyan.gov.in](http://www.acceleratevigyan.gov.in) at its Sayonjika component under SAMOOHAN Program within 5 working days of the receipt of the sanction order/ approval letter. It is mandatory for the EO to use the AV logo in all the activities associated with the funded training program/ workshops after completing the registration. The AV logo would be made available to the EO through the web-portal after registration. The EO should submit the completion/ outcome report online in the desired format (as available on the AV Portal) within one month of the completion of the event, as a mandatory compliance. A confirmation to this effect (all these actions), that is registration, utilization of logo and submission of the completion/ outcome report will be submitted to CSIR-HRDC which in turn will forward to SERB in plain textual language, while quoting the Reference Number generated at the AV portal during the submission of the UC and SE. The successful closure of this file of the funded event from DSIR (Funding can be from DSIR/CSIR/constituent laboratories of CSIR, CEL, CDC, NRDC or any other funding Agency) is subject to timely completion of all the above actions."

- (iv) All DSIR schemes, constituent laboratories of CSIR, Directorates/ Divisions/ Units of CSIR Hqs., Central Electronics Limited, National Research Development Corporation, Consultancy Development Centre have to follow the instructions listed in Annexure-I.



(Dr Anoop Singh)

Scientist-D

Encl.: As above.

Copy to:

1. Directors of constituent Laboratories/ Institutes
2. HODs of Directorates/ Divisions/ Units of CSIR Hqs.
3. Head, CSIR-HRDC
4. Shri Bhanu Surender, HoD, DSIR, Technology Bhawan, New Delhi
5. Chairman-cum-Managing Director, Central Electronics Ltd., 4, Industrial Area, Sahibabad, Ghaziabad
6. HOO, Consultancy Development Centre, New Delhi
7. Chairman-cum-Managing Director, National Research Development Corporation, Zamroodpur, New Delhi
8. IT Division of DSIR for uploading on DSIR website
9. IT Division of CSIR for uploading on CSIR website
10. Programme Co-ordinator, 'Accelerate Vigyan', Science and Engineering Research Board, 5E5A, Vasant Square Mall, Vasant Kunj, New Delhi
11. Office copy



प्रो. आशुतोष शर्मा  
Prof. Ashutosh Sharma



सचिव  
भारत सरकार  
विज्ञान और प्रौद्योगिकी मंत्रालय  
विज्ञान और प्रौद्योगिकी विभाग  
Secretary  
Government of India  
Ministry of Science and Technology  
Department of Science and Technology

Ref. No.: SERB/Accelerate Vigyan/2017/01

Date: 29-05-2020

**Subject: Launch of Accelerate Vigyan Scheme w.e.f. 01 July 2020**

Dr. Shekhar C. Mande,

This refers our letter no. SERB/Accelerate Vigyan/2017/01 dated 19-01-2018 and your email dated 07-02-2018 in response to constitution of the Inter-Ministerial Overseeing Committee (IMOC) for the Accelerate Vigyan (AV) scheme, as a successful embodiment. As per the email, Dr. Rakesh Kumar Sinha, Head, CSIR-HRDC was nominated to represent your department and to ensure the effective implement of the AV.

To fulfil the objectives of the AV, the first meeting of IMOC was held on 15-05-2020, where in Dr. Rakesh Kumar Sinha attended the meeting. After due deliberations, the IMOC unanimously appreciated the efforts put in by SERB in designing the scheme as well as creating the state of art web portal and associated Mobile App. Also, they assured to support the AV scheme as expected and stipulated in the Minutes of Meeting (MOMs). These MOMs agreed upon by all the members and subsequently approved by the undersigned, are enclosed herewith.

These are unprecedented and challenging times for normal functioning of any office due to COVID-19. You would agree that, we all departments as part of the IMOC, through requisite synergy needs to make the AV functional w.e.f. 01 July 2020. It is without saying that members in IMOC would act as ambassadors of the representative departments. These along with SERB's representative Dr. Rajeev Mehajan, Scientist-'G' & Program Advisor would play a pivot role in not only launching the scheme in time but make it a success story in times to come.

In order to realize the decisions made by the IMOC, may I request your office to facilitate the actions as stipulated and explained in para 9, 13 and 15 of the MOMs at priority.

Thank you in anticipation.

*With regards,*

Yours sincerely,

Encl: As above.

(Ashutosh Sharma)

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New Delhi-110001.

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**Minutes of Inter-Ministerial Overseeing Committee (IMOC) Meeting for launching the Accelerate Vigyan Scheme held on 15 May 2020 at Science and Engineering Research Board (SERB), a statutory body of Govt. of India.**

The first meeting of the Inter-Ministerial Overseeing Committee (IMOC) for Accelerate Vigyan (AV) Scheme, was held on 15 May 2020 at SERB Conference Hall (through Videoconference). The meeting was held under the Chairmanship of Prof. Ashutosh Sharma, Secretary, DST and Prof. Sandeep Verma, Secretary, SERB.

The following members were present in the meeting:

Prof. Ashutosh Sharma, Secretary, DST	Chairman
Prof. Sandeep Verma, Secretary, SERB	Co-Chairman
Dr. Naresh Chand Jain, Scientist-G, ICMR	
Dr. N. Ranjana, Scientist-G, DRDO	
Dr. Gopal Iyengar, Scientist-G, MoES	
Dr. (Mrs.) Archana Thakur, Joint Secretary, UGC	
Dr. Rakesh Kumar Sinha, Head, CSIR-HRDC	
Dr. Meenakshi Munshi, Scientist-G, DBT	
Dr. Asawari Rath, Scientific Officer-G, BARC	
Dr. P. K. Agarwal, ADG (NASF), ICAR & VC, OUAT	
Mr. Lalit Bokolia, Scientist-F, MoEF*	
Dr. G. S. Rao, Associate Director, ISRO HQs, DoS*	
Dr. R. K. Mehajan, Scientist-G, SERB	Program Advisor
Dr. Pankaj Kumar Rawat, Scientist-C, SERB	Program Officer
Dr. Ramesh Vijayan, Scientist-C, SERB	Program Officer
Mr. Aman Arora, Sr. Programme Associate, SERB	
Mr. Ashish Choudhary, M/S Gungho – partners for AV web portal	

1. The meeting happened with full quorum. Mr. Lalit Bokolia, **MoEF** and Dr. G. S. Rao, **ISRO** attended the meeting on behalf of original members of the IMOC, Ms. Manju Pandey, Joint Secretary, MoEF and Mr. Shantanu Bhatawdekar, Director, Earth Observation System, ISRO respectively; as the latter were occupied due to other prior unavoidable pressing commitments.

2 After a brief round of introduction by the IMOC members, Secretary, SERB welcomed and thanked them for representing their ministries / departments / organisations. He further illustrated the defined role of IMOC (the details at **Annexure A**) in aiding towards effective implementation of Accelerate Vigyan scheme. He further briefed that the endeavour is conceptualised, designed, structured and being implemented by SERB, as per the recommendations of the Group of Secretaries (SGO-8) in June 2017, and its subsequent approval (to be funded by SERB) by its governing board in September 2017. The scheme has been further

concluded and facilitated by the PMO and office of the Hon'ble Minister for S&T, over a period of time.

3. This was followed by a joint presentation on Accelerate Vigyan (AV) scheme by Program Advisor, Dr. R. K. Mehajan and Program Officer Dr. Pankaj K. Rawat both from SERB. They highlighted the background of the scheme, initiatives taken so far and presented the salient features of the four components of the scheme i.e., Karyashala (High End Workshops) & Vritika (Research Internships) under ABHYAS program, and Sayonjika (Chronicle) & Sangoshthi (Seminar & Symposia) under SAMOOHAN program.

4. Program Advisor, Dr. R. K. Mehajan further apprised the house that AV scheme strives to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and knowledge-based economy. He mentioned, recognizing that all research has at its base as development of quality, well-trained researchers; AV will initiate and strengthen mechanisms of identifying research potential, mentoring, training, and hands-on workshops, on a broad-based national scale.

5. It was asserted that the final aim of the AV is to expand the research base in Science and Engineering, with three broad goals –

- consolidation / aggregation of all scientific training programs, funded by all
- initiating High end Orientation Workshops
- creating opportunities for Research Internships.

6. It was further illustrated that these last goals will be accomplished by two major components Karyashala (High End Workshops), Vritika (Research Internships), under the ABHYAS program. There are several existing schemes / programs (including SERB's existing 'Seminar & Symposia') in the scientific departments as well as certain premier institutions / labs, which facilitates the students aspiring or engaged in R&D in capacity building events of all types. However, there is no collective and coordinated platform available in the country for capturing the outcome / data of such events, to consolidate it via a holistic approach, to avoid any duplicity and consequent wastefulness. Consequently, these efforts of all the departments and beneficiaries of capacity building, even for major programs often remains unnoticed for want of a common data base. Therefore, one component of the scheme aims towards branding and aggregation of all the major scientific workshops summer/winter and training programs conducted in the country under a common roof and logo of "Accelerate Vigyan" through Sayonjika (Chronicle) component under SAMOOHAN program.

7. The presentation also touched upon the magnitude of the capacity building aspired through the scheme. A moderate budget of about Rs 15 crore per year has been catered for the scheme that would be catered by the SERB. The plan is to reach

out to a total of 30000 PG/PhD students during five years period. The big picture is to reach out to masses and also garnering scientific social responsibility.

8. It was categorically flagged that notwithstanding SERB funding this scheme, it is not DST's scheme per-se. It is rather our scheme where collectively, as directed by the SGO-8, we all departments (through IMOC) are going to ensure its implementation and success. It was concluded that AV would be expected to work on a mission mode, particularly w.r.t its 'Sanyojika' component (aggregation drive).

9. It was brought by Dr. Mehajan that the database of skilled manpower to generate and the final outcomes captured in the process, through the MIS of the AV portal, will not only aid towards career development of the students but also provide support to catalogue the capacity development in major training programs. At the end of presentation, expectations from the IMOC and likely challenges in implementing the scheme were brought and summarized as follows: -

#### **Expectations from IMOC:**

- To Issue departmental orders to ensure aggregation of all major scientific workshops and training programs (of duration 5 days and more) funded by them in the country under a common roof and brand of "Accelerate Vigyan" through its 'Sayonjika' component under AV's SAMOOHAN program.
- To establish own monitoring mechanism of the supported events by respective departments for ensuring the above aggregation, and provisions of safeguards and requisite actions thereon in respect of defaulters (if any).
- To promote, motivate and encourage the potential event organizers from own organisations / institutions / labs / universities under the umbrella of respective ministries/departments (through institutional mechanisms), to submit proposals for skill development through AV's ABHYAAS program (High End Workshops and Research Internships) in order to expand the research base. As such, the ABHYAAS program will be open to anyone, as per the eligibility criteria.
- To provide inputs to the AV, for further identification of priority areas of R&D requiring high-end skill development in various fields for the above skill development (in addition to already approved list in Accelerate Vigyan as provided at **Annexure B**). Besides, as the scheme evolves over a period of time after launch, to provide feedbacks to SERB in order to strengthen it.

### Challenges in implementation:

- To motivate Event organizers to come forward for conducting events of such nature (high end workshops / training programs / internships) as an additional commitment beyond their institutional commitments and own priorities, as a largely matter of scientific social responsibility.
- Delayed functionalization of institutes due to covid-19 pandemic and their priorities, with respect to the first call of the AV.
- Likely expected budget constraints in coming times due to the pandemic.

10. This was followed by a presentation by the joint partners of SERB in the development of the AV's web portal and associated mobile app. Mr. Ashish Choudhary, representative of M/s Gungho made a presentation on salient features of already developed and tested Project Proposal Management System (PPMS), a dynamic web-portal for AV scheme. The existing features web-portal i.e., multiple registration modes, proposal management, archival management, vigyan-varta, newsfeed, publicity, linkages to social media, MIS, etc. were explained. The future road map for the web-portal in Phase-2, in terms of developing tools for gamifications and such attractive features to engage scientific community in order to make Accelerate Vigyan, a success phenomenon was also explained to IMOC. He also presented the functions of the associated mobile application to the Committee.

11. The house was also apprised by Dr. Pankaj Rawat on the future tentative plans of the AV scheme. There could be an additional component specific to the needs of woman scientists in future and even need of creating exclusive infrastructure for the workshops and need to identify such centres of excellence. It could also support the underprivileged sections through introduction of dedicated subcomponents.

12. The IMOC unanimously praised the enormous efforts made by SERB over a period of over two years, in conceptualisation, design and structure of the AV scheme as well as development of the Web-Portal (PPMS) and associated mobile application.

13. This was followed by extensive deliberations on each of the four components of Accelerate Vigyan, especially w.r.t. expectations out of IMOC in relation to 'Sayonjika' component meant for aggregation of database. The summary of remarks, deliberations and recommendations of the committee thereon were as follows: -

- The IMOC unanimously agreed to support the AV scheme as expected out of them and stipulated in para 9 of the minutes. Each participating ministry / department representative in IMOC also specifically committed to bring out their ministerial / departmental capacity building programs that are meant to

support scientific outreach activities, training programs, workshops etc. (of 5 days or more) under the umbrella of the AV, through 'Sayonjika'.

- Each ministry / department assured to issue respective Orders / OMs to ensure registration in AV web-portal (by the PI / event organizer), using the AV logo in all the associated activity through 'Sanyojika' component and subsequent submission of outcomes of the supported events being funded by the organisations under their own umbrella. SERB is to provide salient features of the AV for the order/OM for facilitating the task. These inputs from SERB can be suitably incorporated at individual department's end for building up the mechanisms to ensure the basic goals of the AV, especially 'Sayonjika' at top priority. *[In this respect, the "Executive Summary of the Program" and "Vital inputs from SERB", for building the department's own orders/Oms to supplement the awareness drive for the scheme as well as to ensure aggregation of the capacity development through 'Sayonjika' are placed at Annexure C and Annexure D. The specific paragraph that needs to be uniformly included in all the sanction orders/approval letters issued by various departments for the major training programs of duration 5 days or more is placed at Annexure E.]* The departments incorporating the necessary aspects hardly need reemphasis.
- The token grant of Rs. 15000/- originally catered under "Sayonjika" to motivate the PIs being funded for the major training workshops by different departments/ministries, was recommended to be dropped by the IMOC, as it was considered avoidable burden on the exchequer. It was also asserted that such a noble cause of aggregation of database of capacity building for all the stakeholders in the scientific community should be considered as scientific social responsibility. At the same time, it was felt that to ensure participation in the aggregation drive "Sayonjika", clear instructions to the PI / Event Organizers for registration, submission of completion report and tangential outcomes at as per guidelines and standard formats available at AV web portal.
- The AV scheme will be made functional from 1<sup>st</sup> July 2020 and applications / proposals for the first call on High End Workshops and Research Internships can be invited from 1<sup>st</sup> July 2020 to 31<sup>st</sup> August 2020 for winter workshop in December 2020 – January 2021. However, for the subsequent calls, the usual design of the AV scheme will be put in place. The 'Sanyojika' component will also be launched w.e.f. 01 July 2020; and it will be an open-ended component that would offer registration from all the respected PIs/Event Organizer funded by the departments associated with the IMOC, throughout the year.
- High End Workshops and Research Internship can be funded by AV in the listed themes at Annexure B, (but not, necessarily restricted to the list per-se)



at any institute / university / laboratory of eminence who have proven expertise track record in that aspect. Whereas the high-end capacity building of such nature will be carried out at the host premier institutions where such expertise exists, the beneficiaries will be generally from those institutions where students do not have such access. In essence, both the beneficiaries as well as host institution would be decided on the basis of sole criteria of the basic objectives / purpose of the programs. It was also observed that the AV web portal in its present design already caters to such needs. The merit of the proposal will be assessed for funding by the respective ABHYAS Expert Committee (AEC) constituted for the purpose.

- It was also proposed that the necessary certifications from the AV platform on its capacity development programs, will bring the desired standardisation and perhaps the potential for its acceptance by the industry/academia in providing the berths in research as well as employment. SERB assured to deliberate on the issue and bring the desired certification, as the scheme evolves further.


14. Chairman, IMOC (Secretary, DST) in his concluding address to the members said that there is an urgent need to focus on the young researchers, especially from those establishments who do not have access to the esteemed research environment. He highlighted that the aim is to give an opportunity to them to spend quality time in the preidentified premier institutions, labs and organisations of such environment, and positively reinforce their strengths, so that they acquire the requisite skills and vision for undertaking future research assignments requiring high standards. The aim is also largely to offer inbuilt hands on experience in handling / common troubleshooting and maintenance of high-end scientific equipment. This is important, as lots of time, money and resources are being spent in creation of such infrastructure at premier institutions. He also stressed upon the need of the maintenance and sustenance of such high-end equipment (often not attempted by the PIs after the completion of the project that funded them). He opined that the capacity development on such high-end equipment will lead to a pool of the enthusiastic youngsters, even aspiring to initiation of 'Start-Ups' in providing services for its seamless operational maintenance across the country. He further suggested that in such programs, training on scientific interpretation of data should be emphasised along with theoretical underpinning. He finally stressed upon the need to track knowledge, R&D effort, and their interconnections through the various components of Accelerate Vigyan. He finally thanked all the members for coming together and undertake fruitful deliberations. He was positive about the enthusiasm seen among the members of the IMOC, and called upon them to be the ambassadors of the AV in their own departments to get the desired support for the timely launch of new inter-ministerial scheme funded by SERB, through effective liaison with all the stakeholders. He also commended the sustained efforts and perseverance of SERB team over a period of time, to be able to be in a position to not only launch the scheme by 01 July 2020 in these challenging

times due to COVID 19, but also been able to create the state-of-the-art modern AV portal and associated mobile app.

15. The summarized action items for implementation are as follows:

- Issuance of departmental awareness drive letters for AV scheme and respective orders for ensuring aggregation of all major scientific workshops and such training programs (of duration 5 days and more) in AV web-portal through its component Sayonjika – Action by all departments / ministries as part of the IMOC (20<sup>th</sup> June 2020).
- Outreach of AV scheme and dissemination of information to the stakeholders about its launch and call for proposals through newspaper advertisement and website – **Action by SERB (25<sup>th</sup> June 2020).**
- Constitution of AEC and establishment of other internal mechanisms and processes for launch of the AV scheme – **Action by SERB (30<sup>th</sup> June 2020).**

The meeting ended with thanks to all the members for their participation and contribution to the proceedings.

  
(Dr. Rajeev Mehajan)  
Scientist G / SERB  
Program Advisor, AV

## Annexure-A

### **COMPOSITION AND TERMS OF REFERENCE Inter-Ministerial Overseeing Committee (IMOC)**

#### **COMPOSITION**

The Inter-Ministerial Overseeing Committee (IMOC) was constituted to synergised efforts for educating, sensitising and encouraging the various organisation / universities / institute / labs under the respective departments / ministries to undertake measures to make the "Accelerate Vigyan" as effective tool in capacity building and skill development. The following are representing the different Ministries / Departments of Government of India in the IMOC: -

<b>S No.</b>	<b>Departments</b>	<b>Name</b>	<b>Designation</b>	<b>Remarks</b>
1.	DST	Dr. Ashutosh Sharma	Secretary	<b>Chairman</b>
2.	SERB	Dr. Sandeep Verma	Secretary	<b>Vice Chairman</b>
3.	DBT	Dr. Meenakshi Munshi	Scientist G	<b>Nominee</b>
4.	MoEF&CC	Mrs. Manju Pandey	Joint Secretary	<b>Nominee</b>
5.	MoES	Dr Gopal Iyengar	Scientist - G	<b>Nominee</b>
6.	DoS	Shri Shantanu Bhatawdekar	Director, Earth Observations Systems	<b>Nominee</b>
7.	DRDO	Dr. N. Ranjana	Scientist - G	<b>Nominee</b>
8.	BRNS	Dr. Asawari Rath	SO- G	<b>Nominee</b>
9.	DSIR	Dr. Rakesh Kumar Sinha	Head, HRDC, CSIR	<b>Nominee</b>
10.	ICMR	Dr. N. C. Jain	Scientist – G	<b>Nominee</b>
11.	ICAR	Dr. P. K. Agarwal	ADG (NASF)	<b>Nominee</b>
12.	UGC	Dr. (Mrs.) Archana Thakur	Joint Secretary	<b>Nominee</b>
13.	SERB	Dr. Rajeev Mehajan	Scientist - G	<b>Program Coordinator</b>

#### **Terms of Reference**

- i. To ensure the branding and aggregation of all the scientific workshops and training programs conducted in the country under a common roof and logo of "Accelerate Vigyan".

- ii. To advise the “Accelerate Vigyan” in identifying priority areas of R&D requiring high end skill development in various fields of Science and Engineering
- iii. To take synergised efforts for educating sensitising and encouraging the various organisations/universities/institute/labs under the respective departments to undertake measure to make the "Accelerate Vigyan" as effective as tool in capacity building and skill development.
- iv. Special efforts to ensure linkages with relevant industry and other partners whenever required for the requisite skill development in specific cases.

**Tenure**

The tenure of the Committee will be three years from the date of issue of the Office Memorandum or till further orders.

**Sitting Fees**

We may agree to provide a sitting fee of Rs.4,000/- (Rupees Four Thousand Only) per day of the meeting to the AVOC members / special invitees, on the recommendation of the Chairman, are also entitled for the sitting fees as indicated above.

**TA/DA**

TA/DA for the above members / nominees attending the AV meetings shall be borne by respective Miniserries or Department.

IDENTIFIED TOPICS FOR HIGH END WORKSHOPS

- **Hands on Training on High-End Scientific Equipment**
  - Familiarization with equipment
  - Hands on training on Sample preparation (e.g. for TEM, SEM etc.)
  - Handling & Trouble Shooting
  - First Step Maintenance
- **Handling Data and Information**
  - Understand and synthesize large quantities of data
  - File Backup / Sharing / Sync and Programming codes.
  - Using software and interlinking from other operating systems.
  - Handling Data, Plots and Graphics.
  - Electronic Lab Notebooks and connecting Instruments on net.
- **Artificial Intelligence (AI) and Machine Learning (ML)**
  - Applications of AI and its usage
  - Applications of ML and its usage
- **Statistical Tools and Modelling**
  - Statistical Modelling using different programming tools i.e. 'R', Python, Ruby, MATLAB etc.
  - Regression Modelling
  - Theory of Stochastic Orders and Applications
  - Ranking and Selection Problems
  - Advanced Statistical and Machine Learning Modelling
- **Remote Sensing and GIS Applications**
  - Applications of Remote Sensing and GIS – Layered Approach to Problem Solving
  - Virtual GIS / 3D Modelling
  - GNSS, DGPS, Navigation and GPS Study
  - Satellite Images Analysis, Visual Interpretation using Image Processing & GIS Software
- **Responsible Conduct in Research**
  - While Preparing for Research
  - Preventing Misuse is the best medicine
  - Effective use of Incentives for Ethics
  - Scientific Social Responsibility
  - Global Research: The International Collaboration
- **Written & Oral Effective Science Communication**
  - Benefits and Challenges
  - Prepare concise and logically written materials
  - Organize and communicate ideas effectively in oral presentations
  - Techniques — brief abstract to book-length manuscript
  - Communicating Scientific Information to Public
  - Write effective grant proposals & Reports
- **General Laboratory Management**
  - Policy Guidelines of Safety
  - Emergency Procedures
  - Overnight Experiments
  - Maintenance and Cleaning of a Laboratory
  - Decommissioning of a Laboratory

## ABOUT ACCELERATE VIGYAN – AN EXECUTIVE SUMMARY

**Accelerate Vigyan (AV)** is a scheme conceptualised and being steered by the Science and Engineering Research Board (SERB) that was decided on the broad recommendations of the Group of Secretaries – SGO 8, to accelerate high-end scientific research in the country. The in-principal approval of the scheme was granted by the Chairman, SERB vide Diary no. EF-12818 dated 21 June 2017. However, based on the extensive discussions in the XXII meeting of the Board, the scheme was finally approved with certain modifications and respective minutes of the meeting were circulated in September 2017. The final modified version of the scheme was approved in the Board with a budget of Rs. 75.07 crores for next five years.

2. The scheme strives to provide a big push to high-end scientific research and prepare scientific manpower which can venture into research careers and knowledge-based economy. Recognizing that all research has at its base as development of quality, well-trained researchers; AV will initiate and strengthen mechanisms of identifying research potential, mentoring, training and hands-on workshops, on a broad-based national scale. The aim is to expand the research base, with three broad goals - consolidation / aggregation of all scientific training programs, initiating High end Orientation Workshops and creating opportunities for Research Internships.

3. This scheme is primarily to focus on young researchers from universities/institutes not having access to the esteemed research environment with an aim to give an opportunity to them to spend quality time in the pre-identified premier institution, labs / organizations of esteemed research environment and positively reinforce their strengths, so that they acquire the requisite skills and vision for undertaking future research assignments requiring high standards. This will be achieved under mission **SKILL DEVELOPMENT** (Hindi name as 'ABHYAS') through two modes of learning, that is **High End Workshops (KRAYASHALA)** & **Research Internships (VRITIKA)**. The aim is to reach out to those students from the universities / institutes / recognised colleges, who do not have access and exposure to such facilities and environment.

4. As part of this acceleration drive, there is a plan to organise about 200 High-end workshops to provide opportunities to about 5000 PG and Doctoral level students every year for inbuilt hands on experience in handling / trouble shooting of high end scientific instruments, in collaboration with esteemed scientific institutions / laboratories, thereby research training about 25,000 students in next five years. Also, central coordination of internships in these scientific institutions / laboratories will provide opportunities to another 1000 potential PG level students every year through this scheme, thereby targeting another 5000 students during next five years.

5. There are several existing schemes / programs in the scientific departments as well as certain premier institutions / labs, which facilitates the students aspiring or engaged in R&D in capacity building events of all the types. However, there is no collective and coordinated platform to consider it via a holistic approach, to avoid any duplicity and consequent wastefulness. The SERB itself, through one of its existing program 'Seminar/Symposia' facilitate various forums for scientists and technologists

by providing partial grant-in-aid to scientific organizations and professional bodies to organize mainly short-term seminars / symposia, technical workshops, while the organizers of such events solicit funds from other funding bodies too. However, these efforts of all the ministries/departments and beneficiaries of capacity building, even for major programs often remains unnoticed for the want of a common data base.

6. Therefore, in addition to these high-end workshops and research internships, another component of the scheme AV aims towards branding and aggregation of all the major scientific workshops summer/winter and training programs conducted in the country under a common roof and logo of “Accelerate Vigyan”. With suitable intervention / liaison / facilitation, SERB shall be apprising all scientific departments / organizations and encourage their own funded training program’s event organizers (PIs) to register with “Accelerate Vigyan” portal. The aim is to share the requisite information in the designated format, to aggregate the database of skilled manpower developed across different domain / disciplines among participating students and scientists, as well as capture the final outcomes. This component aims to generate such common information source platform for the benefit of students, teachers, science administrators, policy makers and all other stakeholders, in respect of capacity building in the country to promote Science R&D.

7. This branding exercise mentioned in para 6 above will be achieved under the mission **BRING TOGETHER** (Hindi name as ‘SAMOOHAN’) through two modes of consolidation – first mode aiming at aggregation/cataloguing of major workshops/training programs funded by all the scientific departments / ministries in the country through proposed aggregation initiative **Chronicle** (‘SAYONJIKA’), whereas second mode linking and processing of the existing short term partial grant-in-aid **Seminar/Symposia** program (‘SANGOSHTI’) of SERB with the AV web portal for keeping the related data and under the common roof of SERB as a next logical step.

8. The AV will work on mission mode (particularly w.r.t the Chronicle (SAYONJIKA) component. Thus, an Inter-Ministerial Overseeing Committee (IMOC) among all the scientific ministries / departments as well as few others, constituted for the purpose will help and support SERB in implementing the scheme as a successful embodiment. Further, to make all the processes associated with the scheme online, a dedicated new web-portal (Project Proposal Management System) for “Accelerate Vigyan” is ready for launch.

9. The database of skilled manpower developed across different disciplines so generated and the final outcomes captured in the process, through all the subcomponents of the AV will serve the cause of all the stakeholders, in respect of capacity building in the country to promote Science R&D. Besides, considering the large number of the potential youth, in comparison to an extremely small base engaged in R&D, ‘Accelerate ‘Vigyan’ aims to reach masses. It also seeks to garner the social responsibility of the scientific community in the country. In a nutshell, Accelerate Vigyan is expected to be a game changer for developing career paths and providing support to catalogue the high-end skilled manpower development.

## Components of AV



## FINANCIAL IMPLICATIONS

10. The final budget of the scheme for 05 years shall be about Rs 75.07 crores as ratified by the board on discussions during its XXII meeting on 22 August 2017, but incorporating the inter-head slight modifications in the budget suggested and approved by the Chairman, SERB vide DST diary no. ER-36405 dated 27 June 2018:

(a) The Web Portal	50, 00, 000
(b) Token Grant for Aggregation of workshops and training programs supported by departments other than DST/SERB – ‘SAYONJIKA’*	07, 50, 00, 000
(c) High End workshops and internships - ‘ABHYAAS’	65, 00, 00, 000
(d) The Manpower	75, 00, 000
(e) The Peripherals (minor equipment, gadgets etc)	7, 00, 000
(f) To create awareness about Accelerate Vigyan - ‘AGARSAR’**	1, 25, 00,000
<b>TOTAL</b>	<b>75, 07, 00, 000</b>

\*Dropped component in the IMOC meeting that will be now utilized gainfully in other components of the Accelerate Vigyan.

\*\*There are outreach endeavors like exhibitions/expos/fairs, print & electronic media, info pamphlets/brochures to reach masses, to acquaint them with activities of Accelerate Vigyan.



## THE TANGIBLE FACTORS AND FUTURE SCOPE OF THE AV

11. The most important challenge is to ensure that students under research internship component of 'ABHYAAS' must be offered the possibility of doing real science, not didactic, over-organized pseudo-research or experiments with a guaranteed outcome. We can present them with new challenges. Young adults need emotional support and personal guidance, so the scientists who serve as their mentors must therefore be willing to get involved and spend quite a bit of time with them. It is also important that mentors have a high level of credibility—not only as scientists, but as role models.

12. There could be an additional component specific to the needs of woman scientists in future and even need of creating exclusive infrastructure for the workshops and need to identify such centres of excellence for this purpose. It could also support the underprivileged sections through introduction of dedicated subcomponents

13. Accelerate Vigyan would not aspire to encourage success-thirsty gladiators in the laboratory, rather it would aim to educate and nurture future research colleagues in the labs. The students will also gain a lot of personal experience that will remain relevant, despite they may still seek their place in society and explore their strengths and capabilities in areas other than S&T. Just by giving them a chance to spend some time in a new environment and by positively reinforcing their strengths—we can help them to gain a clearer vision of what they can expect from the future.

## CONCLUSION

14. There is a common belief that India is 'lagging behind' developed and newly industrialized economies in the field of science and technology due to 'comparatively low' investment in R&D. This may not be entirely true because the per capita investment in Science R&D on one individual in India is sufficiently high and comparable to many of the developed countries. Inadequate and dwindling numbers among youth taking up research is a matter of concern today and needs to be addressed holistically.

15. The problem is also about inadequate development of manpower engaged in research. As a result, sometimes inventions come from the experience of production, or through informal trial and error; or out of need or sometime from serendipitous insight. Notably, the multiple originations of knowledge raises a measurement problem because not all R&D activity results in an innovation, and not all inventions come from formal R&D activity. Thus, there is a need to track knowledge, R&D effort and their interconnections through the various components of AV.

**VITAL INPUTS FOR “SAYONJIKA” COMPONENT FOR THE PURPOSE  
OF INITIATION OF RELEVANT OMs / ORDERS IN ALL THE  
DEPARTMENTS / MINISTRIES IN IMOC**

**OBJECTIVE**

‘SAYONJIKA’ is an integrated initiative to catalogue the capacity building activities in Science and Technology supported by Government funding agencies in the country. This program aims to encourage the Event Organizers to register with Accelerate Vigyan online portal i.e., [www.acceleratevigyan.gov.in](http://www.acceleratevigyan.gov.in), to utilize its logo and submit the completion report and outcomes. The information base aggregated through this initiative will benefit the students, teachers, researchers, science administrators and policy makers, in participating, conducting and planning future capacity building activities and have repository of the skilled manpower in various fields / areas.

**ELIGIBILITY**

The events supported by the national agencies (Central Government Ministries / Departments) are eligible under SAYONJIKA.

**DURATION**

The events of five or more days are only eligible for funding. The aim is to consolidate only major training programs / schools / workshops for a meaningful data base for the benefit of the stakeholders, including policy makers.

**HOW TO APPLY**

Applicant must apply online immediately after the receipt of approval / sanction letter of the Departments / Ministries / Statutory Bodies to Government of India to hold these workshops / training programs / winter & summer schools.

**TIMELINE**

Applications must be submitted only through online well in advance prior to the start of the approved event by specific organizations / departments / ministry to Government of India.

**GUIDELINES**

**(a) Selection criteria / procedure**

Workshops / training programs / winter & summer schools of duration five or more days meant for grooming the young budding scientists as capable and skilled researchers and supported by the Government of India will get selected for inclusion in this platform.

**(b) Review / Monitoring Mechanism**

The event organizers are expected to submit the data and information about the event in the prescribed format within one month after the completion of the event.

Annexure-E

**SUGGESTED PARAGRAPH TO BE INCLUDED IN THE DEPARTMENTAL SANCTION ORDER / APPROVAL / SUPPORT LETTER TO THE EVENT ORGANIZER FOR NECESSARY COMPLIANCE –**

“The PI / Event Organizer (EO) should register the event (scientific outreach activities, training programs, seminar, symposia, workshops etc.) in Accelerate Vigyan (AV) scheme’s web-portal i.e., [www.acceleratevigyan.gov.in](http://www.acceleratevigyan.gov.in) at its Sayonjika component under SAMOOHAN Program within 05 working days of the receipt of the sanction order/approval letter. It is mandatory for the EO to use the AV logo in all the activities associated with the funded training program/workshops after completing the registration. The AV logo would be made available to the EO through the web-portal after registration. The EO should submit the completion / outcome report online in the desired format (as available on the AV Portal) within one month of the completion of the event, as a mandatory compliance. A confirmation to this effect (all these actions), that is registration, utilization of logo and submission of the completion/outcome report may please be sent to us in plain textual language, while quoting the Reference Number generated at the AV portal during the submission of the UC and SE. The successful closure of this file of the funded event from this department is subject to timely completion of all the above actions.”