

**Government of India
Ministry of Mines
Metal-4 Section**

Minutes of 57th Meeting of Standing Scientific Advisory Group (SSAG) held on 19th June 2024 at 11.30 pm at Khanij Kaksh, Shastri Bhawan, New Delhi.

57th Meeting of Standing Scientific Advisory Group (SSAG) was held on 19th June 2024 at 11.30 pm at Khanij Kaksh, Shastri Bhawan, New Delhi under the chairmanship of Shri V. L. Kantha Rao, Secretary, Ministry of Mines. The list of participants is enclosed at Annexure-A.

2. At the outset, Shri Pradeep Singh, Director (Technical), Ministry of Mines and Member Secretary, SSAG welcomed the members to the 57th SSAG meeting. Initiating the proceedings of the meeting, the Member Secretary briefed the SSAG about the evaluation and review process of the project proposals conducted by PERC before recommending these to the SSAG. It was briefed that the Project proposals were invited online on SATYABHAMA portal of the ministry of mines i.e. research.mines.gov.in under the Science & Technology Scheme of Ministry of Mines. A total number of 210 project proposals were received on the SATYABHAMA portal till the last day of the deadline for receiving the proposal i.e. 15th May 2024. Thereafter a two-stage evaluation & review process was adopted to evaluate the proposals for making recommendation to Standing Scientific Advisory Group (SSAG). The first stage comprised of preliminary screening of the proposals which was done by a team of experts. The experts conducted pre-screening of the proposals based on the guidelines as adopted in 14th PERC.

3. Member secretary informed that after screening, 40 proposals were short listed for further evaluation in the second stage by the PERC in its 24th meeting held on 14th June 2024 at Nagpur. The 40 proposals which were recommended by a team of Experts were examined and evaluated after detailed discussion with the PIs concerned by 24th PERC. Out of these 40 project proposals, PERC recommended 27 projects for consideration of the SSAG in its next meeting.

4. Thereafter, agenda items were taken up for discussion. The details of the discussion and the decisions taken on the project proposals and other agenda items are discussed in the following Paras.

- i. The Member Secretary made a detailed power point presentation on the proposals recommended by PERC before the SSAG. After detailed deliberations, the SSAG

approved following 24 project proposals. Two proposal which was recommended by the PERC on certain conditions was deferred by the SSAG and one project was not approved. The details of the project proposals are as under:

1.	
Project No.	SNTMOM/1049/2024
Project Title	Sustainable Manufacturing of automobile engine pistons with 100 percent recycled aluminium alloys with extended Fe-impurity tolerance
Institution	BML Munjal University, Gurugram & Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur
Principal Investigator	Dr. A K Prasada Rao (PI, Professor), Email- akprasada@yahoo.com , 8295963823 R Anil Kumar (PI, Jr Scientist), Email- anilkumar@jnarddc.gov.in , 9491318525 R N Chouhan (Co-PI, Principal Scientist) Email- rnchouhan@jnarddc.gov.in , 9422124941
Industry Partner /Contribution	Motocast Power Alloys Private Limited, Rajasthan ₹ 23,59,725/- ₹ 1,33,71,775/-(MOM)
Project Cost & Duration	₹ 1,57,31,500/- 2 Years

SSAG REMARKS:

Approved at the total cost of ₹ 1,57,31,500/- with the following timeline for release of funds of the MOM contribution of ₹ 1,33,71,775/- :

(Amount in Rupees)

BMU	1 st Year	2 nd Year	Total
Capital Cost	4000000	-	4000000
Recurring Cost	2612500	2467500	5080000
Total	6612500	2467500	9080000

JNARDDC	1 st Year	2 nd Year	Total
Capital Cost	1500000	0	1500000
Recurring Cost	2429500	362275	2791775
Total	3929500	362275	4291775
Grand Total (BMU+JNARDDC)	10542000	2829775	1,33,71,775

2.	
Project No.	SNTMOM/1053/2024
Project Title	Recovery of Nickel from Secondary Steel Industry waste.
Institution	Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur
Principal Investigator	Jyoti Govindrao Pendam (PI), Email- jyoti@jnarddc.gov.in , 9158610779 Dr. Upendra Singh (CO-PI), Email- singhu@jnarddc.gov.in , 9422980366
Industry Partner /Contribution	Hydromet Research and Recovery LLP, Jinal Apartment, Chinchpada, Maharashtra ₹ 9,00,000/- ₹ 51,23,540/-(MOM)
Project Cost & Duration	₹ 60,23,540/- 18 Months

SSAG REMARKS:

Approved at the total cost of ₹ 60,23,540/- with the following timeline for release of funds of the MOM contribution of ₹ 51,23,540/-:

(Amount in Rupees)

JNARDDC	1 st Year	2 nd Year (6 Months)	Total
Capital Cost	1000000	-	1000000
Recurring Cost	2775520	1348020	4123540
Total	3775520	1348020	5123540

3.	
Project No.	SNTMOM/1055/2024
Project Title	Light weightening of Mining Excavators out of Rheo pressure die cast and Rheo-rolled Al-15Mg2Si-4.5Si composite
Institution	Indian Institute of Science, (IISc) Bengaluru
Principal Investigator	Prosenjit Das, Indian Institute of Science Bengaluru Email- prosenjitdas@iisc.ac.in ,7908593077
Industry Partner /Contribution	Dietech India (P) Limited, Sriperumbudur, Tamil Nadu and Tata Hitachi Construction Machinery Company Private Limited, Kharagpur ₹ 22,00,000/- ₹ 88,00,240/- (MOM)
Project Cost & Duration	₹ 1,10,00,240/- 2 Years

SSAG REMARKS:

Approved at the total cost of ₹ 1,10,00,240/- with the following timeline for release of funds of the MOM contribution of ₹ 88,00,240/- :

(Amount in Rupees)

IISc	1 st Year	2 nd Year	Total
Capital Cost	4000000	-	4000000
Recurring Cost	2437120	2363120	4800240
Total	6437120	2363120	8800240

4.	
Project No.	SNTMOM/1075/2024
Project Title	High pure Al alloy with low impurities (Fe, Ca and P), a solution to import substitution
Principal Investigator	DR. Anil Kumar Chaubey, Email-akchaubey@immt.res.in , 9438090232
Industry Partner /Contribution	CSIR – ₹ 10,00,000/- Vedanta Aluminium Odissa, ABI Show tech India PVT LTD, Burkhamunda, Jharsuguda-₹ 8,00,000 /- ₹ 22,36,750/- (MOM)
Project Cost & Duration	₹ 40,36,750/- 18 Months

SSAG REMARKS:

Approved at the total cost of ₹ 40,36,750/- with the following timeline for release of funds of the MOM contribution of ₹ 22,36,750/- :

(Amount in Rupees)

CSIR-IMMT	1st Year	2nd Year (6 Months)	Total
Capital Cost	450000	-	450000
Recurring Cost	1210500	576250	1786750
Total	1660500	576250	2236750

5.	
Project No.	SNTMOM/1085/2024
Project Title	Development Of Purification Process Technology For The Preparation Of5n Purity Aluminium For Electronic And Other Speciality Applications
Institution	Hindustan Institute of Technology and Science, Kelambakkam, Tamil Nadu
Principal Investigator	Dr. V N Mani, Email- vnmani@hindustanuniv.ac.in , 7382489862
Industry Partner /Contribution	Smint TIQ Private Limited, Kottivakkam, Chennai ₹ 8,82,000/- ₹ 35,30,000/- (MOM)
Project Cost & Duration	₹ 44,12,000/- 2 years

SSAG REMARKS:

Approved at the total cost of ₹ 44,12,000/- with the following timeline for release of funds of the MOM contribution of ₹ 35,30,000/- :

(Amount in Rupees)

HITS	1st Year	2nd Year	Total
Capital Cost	2000000	-	2000000
Recurring Cost	814000	716000	1530000
Total	2814000	716000	3530000

6.																			
Project No.	SNTMOM/1093/2024																		
Project Title	Utilisation of aluminium dross in synthetic slag preparation for secondary steel making																		
Institution	Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur & Visvesvaraya National Institute of Technology Nagpur																		
Principal Investigator	Dr. Ram Narayan Chouhan Email-rnchouhan@jnarddc.gov.in, 9422124941 Dr. Rajesh Khatirkar Email- rajeshk@mme.vnit.ac.in, 9960973599																		
Industry Partner /Contribution	Daiki Aluminium (India) Pvt Ltd, Tirupati, Andhra Pradesh ₹ 19,00,000/- ₹ 97,37,500/-(MOM)																		
Project Cost & Duration	₹ 1,16,37,500/- 1 Year																		
SSAG REMARKS:																			
<p>Approved at the total cost of ₹ 1,16,37,500/- with the following timeline for release of funds of the MOM contribution of ₹ 97,37,500/- :</p> <p style="text-align: center;">(Amount in Rupees)</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>JNARDDC</th> <th>1st Year</th> </tr> </thead> <tbody> <tr> <td>Capital Cost</td> <td style="text-align: right;">3600000</td> </tr> <tr> <td>Recurring Cost</td> <td style="text-align: right;">3987500</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">7587500</td> </tr> </tbody> </table> <table border="1" style="width: 100%;"> <thead> <tr> <th>VNIT</th> <th>1st Year</th> </tr> </thead> <tbody> <tr> <td>Capital Cost</td> <td style="text-align: right;">1500000</td> </tr> <tr> <td>Recurring Cost</td> <td style="text-align: right;">650000</td> </tr> <tr> <td>Total</td> <td style="text-align: right;">2150000</td> </tr> <tr> <td>Grand Total (JNARDDC+VNIT)</td> <td style="text-align: right;">₹ 97,37,500/-</td> </tr> </tbody> </table>		JNARDDC	1st Year	Capital Cost	3600000	Recurring Cost	3987500	Total	7587500	VNIT	1st Year	Capital Cost	1500000	Recurring Cost	650000	Total	2150000	Grand Total (JNARDDC+VNIT)	₹ 97,37,500/-
JNARDDC	1st Year																		
Capital Cost	3600000																		
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Total	7587500																		
VNIT	1st Year																		
Capital Cost	1500000																		
Recurring Cost	650000																		
Total	2150000																		
Grand Total (JNARDDC+VNIT)	₹ 97,37,500/-																		

7.	
Project No.	SNTMOM/1110/2024
Project Title	Development of Carbochlorination Process for the Recovery of Rare Earth Elements (REE)from End-of-Life NdFeB Magnets in a Fluidized Bed Reactor
Institution	Institute of Chemical Technology, Mumbai
Principal Investigator	Dr. Manish kumar D Yadav Email- md.yadav@ictmumbai.edu.in , 8976578212
Industry Partner /Contribution	Gharda Scientific Research Foundation, Bandra, Mumbai ₹ 8,00,000/- ₹ 32,32,666/-(MOM)
Project Cost & Duration	₹ 40,32,666/- 2 Years

SSAG REMARKS:

Approved at the total cost of ₹ 40,32,666/- with the following timeline for release of funds of the MOM contribution of ₹ 32,32,666/- :

(Amount in Rupees)

ICT	1st Year	2nd Year	Total
Capital Cost	1335000	-	1335000
Recurring Cost	1037708	859958	1897666
Total	2372708	859958	3232666

8.	
Project No.	SNTMOM/1119/2024
Project Title	DEXSTER- Deep learning X-Ray, Spectral, and Spatial feature Sorter for Recycling of Non-Ferrous Metal Scraps
Institution	Vellore Institute Of Technology, Vellore
Principal Investigator	Dr. Sathish Paulraj Gundupalli, Email-sathish.gp@vit.ac.in, 7762961618
Industry Partner /Contribution	ARDEE industry & HI Tech Pvt Ltd, Siripuram, Vishakhapatnam ₹ 18,00,000 ₹ 34,31,400/-(MOM)
Project Cost & Duration	₹ 52,31,400/- 18 Months

SSAG REMARKS:

Approved at the total cost of ₹ 52,31,400/- with the following timeline for release of funds of the MOM contribution of ₹ 34,31,400/-:

(Amount in Rupees)

VIT	1st Year	2nd Year (6 Months)	Total
Capital Cost	0	0	0
Recurring Cost	2542050	889350	3431400
Total	2542050	889350	3431400

9.	
Project No.	SNTMOM/1122/2024
Project Title	Recycling of LCD screens for recovery of Indium and Tin values
Institution	Indian Institute of Technology, IIT Roorkee
Principal Investigator	Dr. NIKHIL DHAWAN, Email-nikhil.dhawan@mt.iitr.ac.in, 7417968320
Industry Partner /Contribution	Karo Sambhav Pvt Ltd, Gurugram and CTCM, Gurugram, Haryana ₹ 9,03,300/- ₹ 36,13,200/-(MOM)
Project Cost & Duration	₹ 45,16,500/- 18 months

SSAG REMARKS:

Approved at the total cost of ₹ 45,16,500/- with the following timeline for release of funds of the MOM contribution of ₹ 36,13,200/- :

(Amount in Rupees)

IIT Roorkee	1st Year	2nd Year (6 Months)	Total
Capital Cost	3200000	-	3200000
Recurring Cost	360700	52500	413200
Total	3560700	52500	3613200

10.	
Project No.	SNTMOM/1158/2024
Project Title	An approach from lab to field Synthesis of fumed silica from waste or low grade quartz byutilization of critical mineral
Institution	Kalinga institute of industrial technology, KIIT Institute of Chemical Technology Mumbai
Principal Investigator	Dr. Harekrishna Panigrahi, Email- harekrishna.panigrahi@kiitbiotech.ac.in , 9523876548 Dr. SMRUTIREKHA MISHRA Email-s.mishra@iocb.ictmumbai.edu.in , 9560154816
Industry Partner /Contribution	Hollingsworth and Vose Advanced Materials Pvt. Ltd, Mysuru, Karnataka ₹ 16,38,700/- ₹ 65,54,800/-(MOM)
Project Cost & Duration	₹ 81,93,500/- 2 Years
SSAG REMARKS:	
NOT APPROVED	
Project is not approved since there is abundant resource of silica available in the country obviating the need for such exhaustive R&D work.	

11.	
Project No.	SNTMOM/1162/2024
Project Title	Preparation of 99 percent pure nickel-cobalt alloy and Ferronickel 66Fe 31Ni from waste batteries and recovery of Rare Earth Elements in the form of oxides
Institution	CSIR- Institute of Minerals and Materials Technology, Bhubaneswar
Principal Investigator	Dr. Pravas Ranjan Behera Email-prbehera@immt.res.in , 8280231006
Industry Partner /Contribution	Jindal Stainless Limited, Jajpur, Odisha ₹ 6,65,850/- CSIR- ₹ 11,09,750/- ₹ 26,63,400/-(MOM)
Project Cost & Duration	₹ 44,39,000/- 18 months

SSAG REMARKS:

Approved at the total cost of ₹ 44,39,000/- with the following timeline for release of funds of the MOM contribution of ₹ 26,63,400/- :

(Amount in Rupees)

CSIR-IMMT	1st year	2nd year (6 Months)	Total
Capital Cost	650000	125000	775000
Recurring Cost	1221775	666625	1888400
Total	1871775	791625	2663400

12.	
Project No.	SNTMOM/1164/2024
Project Title	Solid state recycling of copper scrap A sustainable approach for producing high strength,high conductivity copper wire
Institution	Indian Institute of Technology, Ropar
Principal Investigator	Dr. Avala Lavakumar Email-lava@iitrpr.ac.in , Mob: 7077110110
Industry Partner /Contribution	Material Recycling Association of India, Andheri (E), Mumbai ₹ 10,40,000/- ₹ 43,36,200/-(MOM)
Project Cost & Duration	₹ 53,76,200/- 18 months

SSAG REMARKS:

Approved at the total cost of ₹ 53,76,200/- with the following timeline for release of funds of the MOM contribution of ₹ 43,36,200/- :

(Amount in Rupees)

IIT Ropar	1st year	2nd year (6 Months)	Total
Capital Cost	1500000		1500000
Recurring Cost	1714800	1121400	2836200
Total	3214800	1121400	4336200

13.	
Project No.	SNTMOM/1167/2024
Project Title	Triazine Derived g-C3N4 Based Separation of Niobium and Tantalum from the Tin Slag- AFully Scalable Fluoride-Free Process.
Institution	Jawaharlal Nehru Aluminium ResearchDevelopment and Design Centre, Nagpur & Banaras Hindu University, Varanasi
Principal Investigator	Dr.Upendra Singh, Email-singhu@jnarddc.gov.in,9422980366 Dr.Somenath Garai Email-sgarai@bhu.ac.in , 8400098731
Industry Partner /Contribution	LOHUM, Greater Noida, Gautam Buddh Nagar

	₹ 23,47,928/- ₹ 93,91,712/-(MOM)		
Project Cost & Duration	₹ 1,17,39,640/- 2Years		
SSAG REMARKS:			
Approved at the total cost of ₹ 1,17,39,640/- with the following timeline for release of funds of the MOM contribution of ₹ 93,91,712/- :			
(Amount in Rupees)			
JNARDDC	1st year	2nd year	Total
Capital Cost	1500000		1500000
Recurring Cost	3139088	2146588	5285676
Total	4639088	2146588	6785676
BHU	1st year	2nd year	Total
Capital Cost	0	0	0
Recurring Cost	1303018	1303018	2606036
Total	1303018	1303018	2606036
Grand Total (JNARDDC+ BHU)	5942106	3449606	9391712

14.			
Project No.	SNTMOM/1168/2024		
Project Title	Closed Loop Recovery of Li and Ni from Spent Batteries, and Sustainable Electrode Development for High-performance Next-generation Indigenous Batteries		
Institution	Indian Institute of Technology, Roorkee		
Principal Investigator	Dr. Yogesh Kumar Sharma Email-yogesh.sharma@cfse.iitr.ac.in, Mob: 9458459799		
Industry Partner /Contribution	Indi Energy, Roorkee, Uttarakhand ₹ 18,82,300/- ₹ 75,29,500/-(MOM)		
Project Cost & Duration	₹ 94,11,800/- 2Years		
SSAG REMARKS:			
NFTDC is added as one of the partner in the project for guiding the research and scale up of the recovery process.			
Approved at the total cost of ₹ 94,11,800/- with the following timeline for release of funds of the MOM contribution of ₹ 75,29,500/- :			
(Amount in Rupees)			
IIT Roorkee	1st year	2nd year	Total
Capital Cost	2500000		2500000
Recurring Cost	2343600	2685900	5029500
Total	4843600	2685900	7529500

15.	
Project No.	SNTMOM/1171/2024
Project Title	Extraction of Gallium from Titanium and Iron ore Industrial wastes
Institution	CSIR- National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram & Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur
Principal Investigator	Dr. S. ANANTHAKUMAR, Email-ananthakumars@niist.res.in, 9497271547 Dr. Upendra Singh Email-singhu@jnarddc.gov.in, 9422980366
Industry Partner /Contribution	V.V. Titanium Pigments Pvt. Ltd., Thoothukudi, Tamil Nadu ₹ 9,75,000/- ₹ 16,25,000/- (CSIR) ₹ 39,00,000/-(MOM)
Project Cost & Duration	₹ 65,00,000/- 2Years

SSAG REMARKS:

Approved at the total cost of ₹ 65,00,000/- with the following timeline for release of funds of the MOM contribution of ₹ 39,00,000/- :

(Amount in Rupees)

JNARDDC	1 st Year	2 nd Year	Total
Capital Cost	0	0	0
Recurring Cost	1002500	997500	2000000
Total	1002500	997500	2000000

CSIR -NIIST	1st year	2nd year	Total
Capital Cost	0	0	0
Recurring Cost	950000	950000	1900000
Total	950000	950000	1900000
Grand Total (JNARDDC+NIIST)	1952500	1947500	3900000

16.	
Project No.	SNTMOM/1184/2024
Project Title	Lead contamination in recycled aluminium cookware-Identifying sources and developing strategies for lead removal
Institution	Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur
Principal Investigator	Dr. Kola Immanuel Raju Email-immanuelkola@jnarddc.gov.in,9980574024
Industry Partner /Contribution	Pure E arth, New York ₹ 20,00,000/- ₹ 49,99,000/-(MOM)
Project Cost & Duration	₹ 69,99,000/- 1Year

SSAG REMARKS:

It was advised to include one of the Indian utensil recyclers on board for successful utilization of the deliverables.

Approved at the total cost of ₹ 69,99,000/- with the following timeline for release of funds of the MOM contribution of ₹ 49,99,000/- :

(Amount in Rupees)

JNARDDC	1st year
Capital Cost	1000000
Recurring Cost	3999000
Total	4999000

17.	
Project No.	SNTMOM/1193/2024
Project Title	Recovery of Metals from Spent Li-Ion Batteries Using Green Reagents
Institution	Indian Institute of Technology, Delhi
Principal Investigator	Dr. SUDDHASATWA BASU Email-sbasu@iitd.ac.in, 7838134181
Industry Partner /Contribution	Verdeen Chemical Pvt Ltd, Hapur ₹ 16,60,120/- ₹ 49,24,376/- (MOM)
Project Cost & Duration	₹ 65,84,496/- 18 Months

SSAG REMARKS:

The objective should focus on electrolyte instead of metals.

Approved at the total cost of ₹ 65,84,496/- with the following timeline for release of funds of the MOM contribution of ₹ 49,24,376/- :

(Amount in Rupees)

IIT Delhi	1st year	2nd year (6 Months)	Total
Capital Cost	2000000		2000000
Recurring Cost	1417044	1507332	2924376
Total	3417044	1507332	4924376

18.	
Project No.	SNTMOM/1206/2024
Project Title	Conformal Cooling strategies for minimising Peripheral Coarse Grain growth in High-Strength Aluminium alloy extrudates
Institution	Jawaharlal Nehru Aluminium Research Development and Design Centre, Nagpur
Principal Investigator	Dr.V N S U Viswanath Ammu Email-viswanatha@jnarddc.gov.in, 7798546794
Industry Partner /Contribution	Bharat Forge, Pune ₹ 9,08,000/- ₹ 51,22,000/- (MOM)
Project Cost & Duration	₹ 60,30,000/- 18 months

SSAG REMARKS:

Ordnance Factory Ambajhari, Nagpur is now converted into a PSU, Yantra India Limited. The Ministry will issue a formal communication to them for expediting the support and release of funds to JNARDDC for the above project.

Approved at the total cost of ₹ 60,30,000/- with the following timeline for release of funds of the MOM contribution of ₹ 51,22,000/- :

(Amount in Rupees)

JNARDDC	1st year	2nd year (6 Months)	Total
Capital Cost	900000		900000
Recurring Cost	1859500	2362500	4222000
Total	2759500	2362500	5122000

19.	
Project No.	SNTMOM/1207/2024
Project Title	Design and Development of Abrasion Resistant Alloys for Sustainable Mining Operations
Institution	Indian Institute of Technology, (ISM) Dhanbad
Principal Investigator	Dr. Avanish Kumar Email-avanish@iitism.ac.in, 9853771070
Industry Partner /Contribution	BRADKEN, Coimbatore ₹ 8,00,000/- ₹ 18,04,084/-(MOM)
Project Cost & Duration	₹ 26,04,084/- 2Years

SSAG REMARKS:

Approved at the total cost of ₹ 26,04,084/- with the following timeline for release of funds of the MOM contribution of ₹ 18,04,084/-:

(Amount in Rupees)

IIT ISM Dhanbad	1 st year	2 nd year	Total
Capital Cost	0	0	0
Recurring Cost	875792	928292	1804084
Total	875792	928292	1804084

20.	
Project No.	SNTMOM/1217/2024
Project Title	Advancing Mineral Exploration using Cost-effective 3D High-Resolution Seismic Ambient Noise Tomography Technique Utilizing Fiber-Optic Interrogators
Institution	Indian Institute of Technology, Bombay
Principal Investigator	Dr.Satish Maurya Email-smaurya@iitb.ac.in, Mob: 9372011131

Industry Partner /Contribution	Industrial Research & Consultancy Center, IIT Bombay ₹ 40,00,000/- ₹ 1,03,29,403/- (IIT Bombay) ₹ 85,34,603/-(MOM)
Project Cost & Duration	₹ 2,28,64,006/- 2 Years

SSAG REMARKS:

The Industrial Research and Consultancy Centre (IRCC) of IIT Bombay shall contribute Rs 40 Lakhs towards the industry share. This shall be in addition to the IIT funding of 50% of capital cost. Approved at the total cost of ₹ 2,28,64,006/- with the following timeline for release of funds of the MOM contribution of ₹ 85,34,603/- :

(Amount in Rupees)

IIT Mumbai	1 st Year	2 nd Year	Total
Capital Cost	7000000		7000000
Recurring Cost	1009603	525000	1534603
Total	8009603	525000	8534603

21.	
Project No.	SNTMOM/1220/2024
Project Title	Lanthanum Aluminum Titanate Derived Thermal Barrier Coatings for Aerospace Propulsion
Institution	CSIR Institute of Minerals and Materials Technology, Bhubaneswar
Principal Investigator	Dr. SISIR MANTRY Email-sisirmantry@immt.res.in, 9438299725
Industry Partner /Contribution	HAL Bengaluru and Bharat forge Pvt Ltd, Jodhpur ₹ 9,00,000/- ₹ 15,00,000/- (CSIR) ₹ 36,20,760/- (MOM)
Project Cost & Duration	₹ 60,20,760/- 2Years

SSAG REMARKS:

Approved at the total cost of ₹ 60,20,760/- with the following timeline for release of funds of the MOM contribution of ₹ 36,20,760/- :

(Amount in Rupees)

CSIR-IMMT	1st year	2nd year	Total
Capital Cost	450000		450000
Recurring Cost	1180380	1990380	3170760
Total	1630380	1990380	3620760

22.	
Project No.	SNTMOM/1227/2024
Project Title	Development of Low-Cost Indigenous Portable Integrated Lidar System for 3D-Mapping inGPS-Denied Underground Mines
Institution	National Institute of Technology, Rourkela
Principal Investigator	Dr.Ram Manohar Bishwal Email-bishwalrm@nitrkl.ac.in, Mob: 8877020745
Industry Partner /Contribution	EDALL Systems, Bengaluru ₹ 5,00,000/- ₹ 20,00,000/-(MOM)
Project Cost & Duration	₹ 25,00,000/- 2 Years

SSAG REMARKS:

Approved at the total cost of ₹ 25,00,000/- with the following timeline for release of funds of the MOM contribution of ₹ 20,00,000/- :

(Amount in Rupees)

NIT Rourkela	1st year	2nd year	Total
Capital Cost	700000		700000
Recurring Cost	634300	665700	1300000
Total	1334300	665700	2000000

23.	
Project No.	SNTMOM/1235/2024
Project Title	Analytical technique for analysis of shot coke in CPC and Biopitch as a Binder for Carbon Anodes in Aluminum production
Institution	Institute of Chemical Technology, Mumbai
Principal Investigator	Dr. SMRUTIREKHA MISHRA, <u>Email-s.mishra@iocb.ictmumbai.edu.in</u> , 9560154816 Dr. Akshaya Kumar Sahoo <u>Email-ak.sahoo@iocb.ictmumbai.edu.in</u> , 9860313395
Industry Partner /Contribution	SRF Europe KFT, Hungary ₹ 12,77,408/- ₹ 72,38,646/- (MOM)
Project Cost & Duration	₹ 85,16,054/- 2 Years

SSAG REMARKS:

Approved at the total cost of ₹ 85,16,054/- with the following timeline for release of funds of the MOM contribution of ₹ 72,38,646/- :

(Amount in Rupees)

ICTM	1 st Year	2 nd Year	Total
Capital Cost	1000000		1000000
Recurring Cost	3439335	2799311	6238646
Total	4439335	2799311	7238646

24.	
Project No.	SNTMOM/1239/2024
Project Title	Assessment, mapping, and In-situ sampling of Lateritic Bauxite plateau deposits through integrated Hyper spectral sensor data and AI-powered heterogeneous Robotic systems
Institution	Jawaharlal Nehru Aluminium Research Development and Design Centre, JNARDDC & Indian Institute of Science Bengaluru, NATIONAL REMOTE SENSING CENTRE
Principal Investigator	Dr. Pravin G Bhukte, Email-pgbhukte@jnarddc.gov.in, 9960020724 Dr. Jishnu Keshavan, Email-kjishnu@iisc.ac.in,9100473433 ISWAR CHANDRADAS Email-das_ic@nrsc.gov.in,9491886475
Industry Partner /Contribution	Art Park (Artificial Intelligence and Robotics Technology Park), Bengaluru ₹ 14,31,750/- ₹ 70,00,000/-(MOM)
Project Cost & Duration	₹ 84,31,750/- 2Years
SSAG REMARKS:	
The project was deferred. Reference shall be made to DG, GSI for comments w.r.t the project.	

25.			
Project No.	SNTMOM/1246/2024		
Project Title	Assessment of critical minerals in mine and mineral wastes for sustainable utilisation		
Institution	Indian Institute of Technology (ISM) Dhanbad		
Principal Investigator	Dr. Devi Prasad Mishra Email-dpmishra@iitism.ac.in,6299882610		
Industry Partner /Contribution	Odisha Mining Corporation (OMC), Bhubaneswar ₹ 5,75,335/- ₹ 19,99,745/- (MOM)		
Project Cost & Duration	₹ 25,75,080/- 2 Years		
SSAG REMARKS:			
<p>The scope of work should be confined to only 2 mine and mineral waste dumps from HCL (Malanjhand, Khetri) and HZL (Rampura Agucha) Approved at the total cost of ₹ 25,75,080/- with the following timeline for release of funds of the MOM contribution of ₹ 19,99,745/- :</p>			
(Amount in Rupees)			
IIT (ISM)	1st Year	2nd Year	Total
Capital Cost	200000		
Recurring Cost	744495	1055250	1799745
Total	944495	1055250	1999745

26.	
Project No.	SNTMOM/1270/2024
Project Title	Optimising alumina-based coatings for reducing air burn in smelter anodes technology development and evaluation for improving energy efficiency
Institution	CSIR- Institute of Minerals and Materials Technology, Bhubaneswar
Principal Investigator	Dr. Balaji Umapathi Email-balaji@immt.res.in, 7735849789
Industry Partner /Contribution	Vedanta Aluminium ₹ 7,33,000/- + ₹ 9,16,250/- (CSIR) ₹ 20,15,750/- (MOM)
Project Cost & Duration	₹ 36,65,000/- 2years
SSAG REMARKS:	
<p>The project was deferred.</p> <p>NALCO representative claimed that they have developed this technology and also patented it. Hence, NALCO was to forward the details of the patented technology to Director, IMMT. Based on this, Director, IMMT shall submit his report to Ministry of Mines for perusal and consideration.</p>	

27.									
Project No.	SNTMOM/1272/2024								
Project Title	Aluminothermic Reduction of Quartz for Production of Porous Silicon Anodes in Lithium-Ion Batteries								
Institution	Indian Institute of Technology, Bhubaneswar								
Principal Investigator	Dr. Soobhankar Pati Email-spati@iitbbs.ac.in, 9040009668								
Industry Partner /Contribution	NEO Silicon Pvt Ltd, Rourkela ₹ 4,50,000/- ₹ 25,50,000/-(MOM)								
Project Cost & Duration	₹ 30,00,000/- 1 Years								
SSAG REMARKS:									
<p>Approved at the total cost of ₹ 30,00,000/- with the following timeline for release of funds of the MOM contribution of ₹ 25,50,000/- :</p> <p style="text-align: center;">(Amount in Rupees)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">IIT Bhubaneswar</td> <td style="text-align: center;">1st Year</td> </tr> <tr> <td>Capital Cost</td> <td style="text-align: center;">875000</td> </tr> <tr> <td>Recurring Cost</td> <td style="text-align: center;">1675000</td> </tr> <tr> <td>Total</td> <td style="text-align: center;">2550000</td> </tr> </table>		IIT Bhubaneswar	1st Year	Capital Cost	875000	Recurring Cost	1675000	Total	2550000
IIT Bhubaneswar	1st Year								
Capital Cost	875000								
Recurring Cost	1675000								
Total	2550000								

4. Following decisions were also taken for smooth running of the scheme and also for optimum and better output of the R&D projects to be funded from S&T Program of the Ministry

- i. DG, CSIR / Secretary (DSIR) to be included as a member of SSAG.
- ii. With regards to the projects not shortlisted by the preliminary screening committee due to no contribution from the industry partner, a communication shall be sent by Ministry to the Head of these Institutions advising them to review the projects and garner industry support for resubmission on next call.
- iii. DO letter to be sent to Secretary (DST), Secretary (Coal) and Secretary (Steel) with a view to integrate the data of all such completed R&D projects.
- iv. Guidelines with regards to transfer of technology should be included in the guidelines of R&D component of S&T Programme of Ministry of Mines by obtaining the existing system followed in DST and CSIR.
- v. Review of all completed projects in last five years should be undertaken by the Head of Institutions of the project and a report should be submitted within 30 days to Ministry with a view to explore the option of commercialization of useful outcomes.
- vi. Director, IMMT shall present the case study of five such projects in which the conceptualization of research gap is undertaken by global literature survey, patent list and company search.

The meeting concluded with a vote of thanks to the chair, members and the experts.

LIST OF PARTICIPANTS OF 57th SSAG MEETING HELD ON 19th June 2024

Sl. No	Name	Designation
1.	Shri V. L. Kantha Rao	Secretary (Mines) / Chairman, SSAG
2.	Shri Sanjay Lohiya	Additional Secretary
3.	Smt. Farida M. Naik	Joint Secretary
4.	Smt. Nirupama Kotru	Joint Secretary & FA
5.	Shri R. P. Gupta	Director
6.	Shri Pradeep Singh	Director (Technical)
7.	Dr. Joyesh Bagchi	ADG. GSI
8.	Dr. K. Balasubramanian	Director, NFTDC
9.	Dr. Ramanuj Narayan	Director, IMMT Bhubaneshwar
10.	Dr .Sripad R Naik	Scientist-V & HoD-NMD, NIRM
11.	Dr. Anupam Agnihotri	Director, JNARDDC
12.	Prof. Arvind Kumar Mishra	Director, CSIR-CIMFR
13.	Shri R. Saravanabavan	Dy. Advisor, NITI Aayog
14.	Dr. M. Mohanty	Scientist-G & Head, DST
15.	Shri Sridhar Patra	CMD, NACLO
16.	Shri Ghanshyam Sharma, CMD,HCL (Online)	Director (Finance) / Additional Charge CMD
17.	Prof. Sagar Pal	Dean (Research & Development), ISM Dhanbad