



# CSIR-NML NEWSLETTER JANUARY- 2022

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**FEBRUARY 05, 2022**

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**CSIR-NML, JAMSHEDPUR  
RESEARCH PLANNING & BUSINESS  
DEVELOPMENT DIVISION**

**STRICTLY FOR INTERNAL CIRCULATION & USE ONLY**

## SUMMARY OF SIGNIFICANT ACTIVITIES

*For the period January,2022, CSIR-National Metallurgical Laboratory*

### 1. Technology Development (New Product/Process Technologies)

Nil

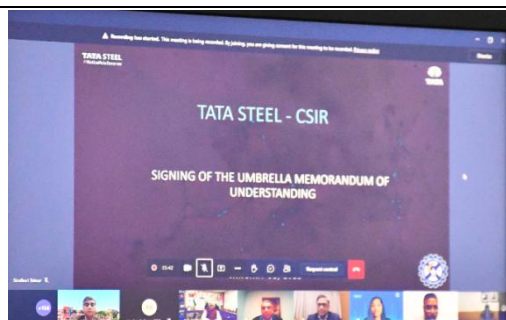
### 2. Agreement(s) Signed

S.No.	Title	Client/Sponsor
1.	Testing of Coal Samples from GSI (Sponsored Agreement)	Geological Survey Of India, Hyderabad
2.	Transfer of technology KNOW-How for the magnetostructure sensing (MsS) device for pipe inspection (MagStrics) (27th December 2021)	M/s. Accelor Microsystems, Mohali





3. An umbrella MoU was signed between Tata-Steel and CSIR. Dr. I. Chattoraj, Director-NML represented CSIR and signed on the behalf of all CSIR laboratories. Dr. Debashish Bhattacharjee, Vice President signed on behalf of Tata Steel. Dr. SC Mande, DG-CSIR, Directors of CSIR-Laboratories and other invitees witnessed the ceremony (online). The MoU shall open the possibilities of collaboration for the two institutions, in the futuristic R&D areas.



### 3. Patent(s)/Copyright(s) Filed

S.No.	Title
1.	<b>Production of electrolytic grade metals (Cu, Ni, Co, and Mn) from the purified leach liquor of different solutions of e-waste</b>
Notification No: NML/PAT 0612/2022/IN Funding Project: FTC-0014/MLP-3116 ( Development of close loop process for the recycling of metals/materials from e-waste) Assignee: CSIR Inventors: Dr. Manis Kumar Jha, Dr. Jhumki Hait, Dr. Ranjeet Kumar Singh, Dr. Sanchita Chakravarty, Dr. Pankaj Kumar Choubey, Dr. Rekha Panda, Mr. Om Shankar Dinkar"	

### 4. S&T services that have created a national/visible impact

- **Characterization of X70 steel produced at Tata Steel Kalinganagar Plant**

The project aimed at characterization of X70 grade pipeline steels. Three different low alloy steels with different amounts of micro-alloying elements Mo, Nb and V were studied. The Gleeble simulation results indicated the possibility of suppression of austenite recrystallization in one of the alloys, which led to finer grain size and decrease in fraction of deleterious rotated cube {100} component of texture. The TEM of the industrial X70 linepipe steel microalloyed with Nb-V-Mo contains coarse Ti-Nb bearing precipitates along with many fine precipitates. Significant variation was observed in microstructure and texture from midplane section of the plates to the surface of the plates. The midplane section contained relatively coarse microstructure as compared to the surface/subsurface microstructure. The texture of midplane section contained relatively larger fraction of the deleterious rotated cube {100} component as compared to that of the texture of the surface/subsurface region. The Gleeble simulation indicated that with increasing amount of deformation below the no-recrystallization temperature the final microstructure gets refined significantly.

### 5. Details of important Workshop(s)/Symposia(s)/Conference(s)/Training Course(s)/ Meeting(s) Organized

- **Webinar on Success Story on Commercialization of CSIR-NML Column Flotation technology (16th Decemeber 2021 )**

In continuation to the events organized in relation to the AzadiKaAmritMahotsav and CSIRat80, this webinar was organized on virtual platform. The webinar was also a part of popular science event for the general public.

**Ms. N. Vasumathi**  
Principal Scientist, CSIR-NML

**Dr. I. Chatteraj**  
Director, CSIR-NML

**Mr. Protul Kumar Singha**  
AGM, McNally Sayaji Engineering Limited

**Mr. T KARTHIKEYAN**  
AGM & HOD, Kerala Minerals & Metals Ltd

**Dr. Shikha**  
SCDD, CSIR Hqrs

**Commercialization of CSIR-NML  
Column Flotation Technology**  
16 Dec 2021 | 11 AM

#80Years\_80SuccessStories  
#AzadiKaAmritMahotsav

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youtube.com/CSIRINDIA1942  
twitter.com/CSIR\_IND  
www.csir.res.in

• **Skill Development: Professional Training Programs**

1. Hot Dip Coating and Applications (HDCA); 3 days; 04 Jan 2022- 06 Jan 2022
2. Recent Trends in Iron and Steelmaking (RTIS) ; 4 days; 18 Jan 2022 21 Jan 2022
3. Metallurgical Failure Analysis of Engineering Components (MFA) ; 1 day; 18 Jan 2022- 21 Jan 2022
4. Corporate Skill training program Fatigue , Fracture and Creep Behavior of Materials Graduate ; 17th Jan 2022- 21st Jan 2022; 5 days; 25 participants
6. Jigayasa Virtual Laboratory Program A workshop on women empowerment; 10

CSIR National Metallurgical Laboratory, Jamshedpur Celebrates **NATIONAL GIRL CHILD DAY**

A Workshop on **Women Empowerment**  
24 January 2022 | From 9:30 pm to 5:30 pm

Speakers:  
Dr. Mita Taralder, Head Scientist CSIR-NML  
Ms. Rashmi Saha, Founder, My Women

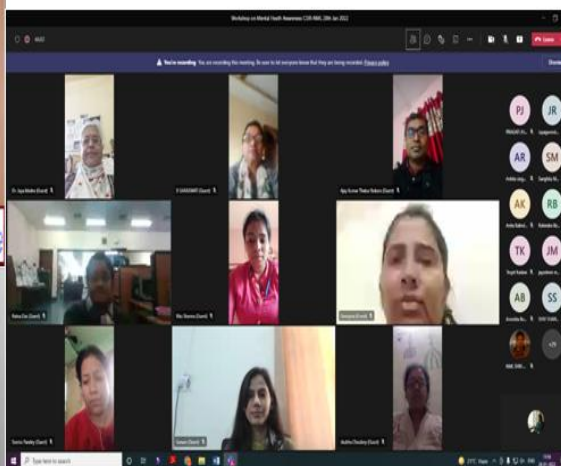
Join at <https://meet.google.com/GRN-CHD-UY-NSD>

**DST-WOMEN TECHNOLOGY PARK**

A Workshop on **Taking Care of Mental Health**  
January 28, 2022 | 11:30 am - 1:30 pm  
Organized by CSIR National Metallurgical Laboratory

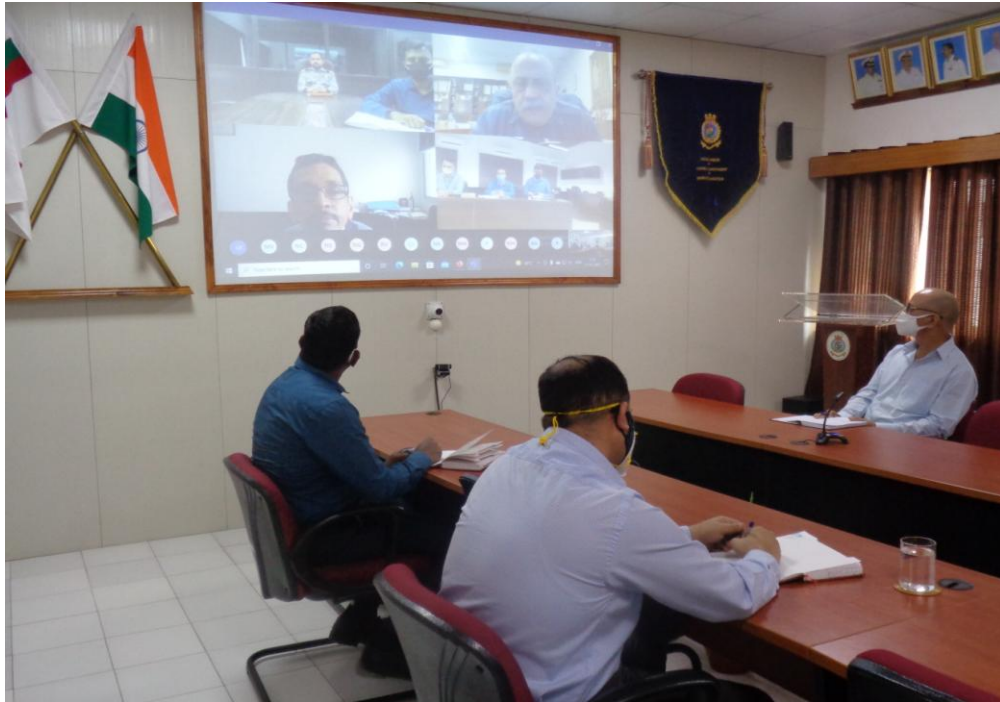
**#StayHome**  
Dr. JAINA WITTRA  
FOUNDER, PINK PINK WIGS EDUCATION

Contact: Ms. Suman Kumar, 9432067502, ssuman@nml.res.in  
https://nml.res.in/DST-WTP-Workshop  
nml.res.in  
https://nml.res.in/Health-Resilience-Workshop



- **Corporate Training on "Fatigue, Fracture and Creep Behavior of Materials"**

The training was conducted by CSIR-NML for the Quality Assurance Officers of the Indian Navy (Regional Aeronautical Quality Assurance Service(RAQAS)) during 17<sup>th</sup> – 21<sup>st</sup> January 2022. The number of participants 25 from RAQAS units all over India including Port Blair





- **77th Meeting of Research Council (21st December 2021)**









#### 6. Details of any New Facilitie(s)

Nil

#### 7. Details of any outstanding Honor(s)/Award(s) received by the staff

- Mr. Bappaditya Das Project Assistant-II and Dr. Rajen Kundu, Scientist received Best Oral Presentation award in Nano Science and Technology in 74th Annual Session of Indian Institute of Chemical Engineers (CHEMCON -2021) held in hybrid mode at CSIR-Institute of Minerals and Materials Technology, Bhubaneswar, India which is organized by CHEMCON-2021. Event Date: 26-30 December, 2021; Awarded Article: "Preparation of graphene oxide from coal".



#### Winners of CSIR-NML Staff Club Indoor Games Tournament organized on 25th December, 2021:

- CHESS** Winner: *Mr. Rohit Meshram*; Runner-up: *Mr. Sitaram Murmu*  
• **CARROM** Winner: *Md. Salim Ansari*; Runner-up: *Mr. Rohit Meshram*  
**TABLE TENNIS SINGLES** Winner: *Mr. R. Raju*; Runner-up: *Mr. Ved Prakash*  
**DOUBLES** Winner: *Mr. R. Raju, Mr. Ved Prakash*; Runner-up: *Mr. Amit Prakash and Mr. R.R. Srivastava*



### ***Invited Talks delivered by Staff***

Dr. Asit Baran Panda, Pr. Scientist delivered a talk on “Current Trends in Chemical Sciences and their Industrial Applications (CTCSIA-2021)” during 29th October – 02nd November, 2021, Jointly organized by Haldia Institute of Technology (HIT) and Indian Chemical Society (ICS), Lecture on -“Greener synthetic approaches for the synthesis of size, shape, and morphology selective nano-structured materials ”

Dr. Asit Baran Panda, Pr. Scientist delivered a talk in 2nd International Conference on “Nanomaterials for Energy Conversion and Storage Applications (NECSA-2022)” during January 19-21, 2022 Organized by Pandit Deendayal Energy University, Gandhinagar, Gujarat, Lecture on “Simple, Cost Effective and Scalable Synthesis of Porous Hollow-spheres: The Efficient Materials for Energy Storage and Conversion Application”.



Dr. Abhilash, Principal Scientist delivered a lecture at CV Raman Global University on AICTE Sponsored ATAL Faculty development Programme on “Mining & Mineral Processing: Advances in Technology & Sustainable Challenges” during on December 14 to 18, 2021.



Dr. Trilochan Mishra, Sr. Principal Scientist delivered a lecture at International Online Conference on Energy Sciences (ICES 2021) 10th - 12th December 2021 Mahatma Gandhi University, Kottayam, Kerala, India ICES 2021 conference held during 10th -12th December 2021



- Dr. DC Sau, Principal Scientist delivered a lecture at in the AICTE-ISTE sponsored Faculty Development Program on “Research for Sustainable Progress” held during 16th December 2021 to 22nd December 2021 organized by Department of Chemical Engineering, L D College of Engineering, Ahmedabad.



- Dr. Mainak Ghosh, Sr. Principal Scientist delivered a lecture in the Annual Meet & Half Day Webinar Aeronautical Applications in Defence Systems on January 25, 2022; organized by ARP (AR&DB) Kanpur, NML & NIT Jamshedpur; Lecture on "Aerospace Materials: A Glimpse on Present & Future"

**Annual Meet & Half Day Webinar**  
**Aeronautical Applications in Defence Systems**  
**January 25, 2022; 10:00 hrs. - 13:00 hrs.**  
**ARP (AR&DB) Kanpur, NML & NIT Jamshedpur**  
 Aerospace Resources Panel (ARP) of Aerospace R&D Board (AR & DB), DRDO  
 Defence Materials and Stores R&D Establishment (DMSRDE), DRDO,  
 GT Road, Kanpur - 208 013, U.P., India  
 Web: <https://meet.google.com/10.00-13.00hrs-Tuesday,25.01.2022>

**PATRONS**  
 Dr. G Sathesh Reddy, Chairman, DRDO & Secretary, DRDO, MoD, Govt  
 Professor Anil A. Gokhale, IIT-B, Chairman, Steering Committee, AR&DB  
 Sh. Hari Babu Subramanian, OS & DG (TM), DRDO

**AR&DB**  
 Dr. Sandip V. Kumar, OS & DG (NS&M), DRDO  
 Dr. BHVS Narayana Murthy, OS & DG (MS), DRDO  
 Dr. Tesay Thomas, OS & DG (Aero Sys), DRDO  
 Sh. Pravin Mehta, OS & DG (ACE), DRDO  
 Sh. KS Venkatesh, OS & DG (HE), DRDO  
 Dr. G. Shantaram Deodhare, PD, ADA  
 Sh. Anil D. Rane, OS & OG (BrahMos), DRDO  
 Sh. GN Rao, OS & DG (PC & SI), DRDO  
 Dr. Indranil Chatterjee, Director, NML, Jamshedpur  
 Prof. Kamesh Kumar Shukla, Director, NIT, Jamshedpur

**ORGANIZING COMMITTEE**  
 Dr. N Eswara Prasad, Chairman, OS & Director, DMSRDE  
 Sh. Rakha Upadhyay, Co-Chair, Sec, AR&DB, DRDO, HQ  
 Dr. Ashish Dubey, Sec. Org. Com, DMSRDE  
 Dr. SK Pandey, Member Secretary, ARP, AR & DB, DRDO, HQ  
 Dr. M. Ghosh, Sr. Pt. Scientist, NML, Jamshedpur  
 Sh. Armit Kumar, DMSRDE  
 Dr. Deepak Kumar, Asst. Prof., NIT, Jamshedpur  
 Sh. Surendra Kumar, DMSRDE  
 Dr. KC Tripathi, Treasurer, DMSRDE

**FOR DETAILS PLEASE CONTACT:**  
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 Ph.: +91-512-22404369  
 Visit: [www.drdo.in/research-board](http://www.drdo.in/research-board)

**ARR&DB:** To encourage and fund basic and applied research in pertinent scientific disciplines directly relevant to our aeronautical systems needed for future by enabling and supporting emerging talents, particularly in academic and research institutions to create and evolve a potential knowledge-base system applicable to future aeronautical needs of the country.  
**ARP:** It is one of the panels of AR&DBs, focusing on the development of human resource and dissemination of information related to aeronautics in different Indian academic institutes.

**Technical Programme**

10:00 - 10:15	Inaugural Session	10:00 - 10:05	Brief About AR&DB, Mr. Rakha Upadhyay, Sec. AR&DB
		10:05 - 10:10	Address by Dr. N Eswara Prasad, ARP Chairman, OS & Director DMSRDE
		10:10 - 10:15	Address by Sh. HB Srivastava, OS (TM), DRDO, HQ
<b>Technical Session Chair: Sh. HB Srivastava, OS (TM), DRDO, HQ</b>			
10:15 - 11:00	Progress of Military and Civil Aviation in India along with the Associated Technologies - A Review: Apurva, JI Kamesh, Sr. Pt. OS, ADA (Ret.) & WSI College of Engineering, Bangalore		
11:00 - 11:30	Aerospace Materials: A Glimpse on Present & Future, Dr. M. Ghosh, Sr. Pt. Sc., NML, Jamshedpur		
11:30 - 11:50	Materials and Structural Applications for Defence/Aerospace, Dr. Deepak Kumar, Asst. Prof., NIT J		
11:50 - 12:30	Vibration Control Using Time-Delayed Feedback, Dr. Ashish Kumar Mandal, Asst. Prof., NIT J		
12:30 - 13:00	Panel Discussion (Chair: Dr. N Eswara Prasad), Annual Meet, Vote of Thanks (By: Dr. Ashish Dubey)		

**Brief Biodata of Speakers**

**JV Kamesh** has served Aeronautical Development Agency (ADA), Bengaluru and superannuated as OS/Sc. H and subsequently joined as Professor & Advisor at Department of Aerospace Engineering, BGS College of Engineering, Bangalore. His research interests are Structural Vibrations & Aeroelasticity and Aircraft Systems.

**Dr. M. Ghosh** is Sr. Pt. Sc., Microstructural Engineering Group, Materials Engineering Division, NML, Jamshedpur. His research orientation towards solid state joining, structure-property correlation, electron optics system and engineering failure analysis.

**Dr. Deepak Kumar** is Asst. Prof in the Mechanical Engineering Department, National Institute of Technology, Jamshedpur, India. He is working in the field of damage mechanics of Composite Materials, Nanocomposites, Smart Materials, Product Design, and development of Biomaterials.

**Dr. Ashish Kumar Mandal** is Asst. Prof in the Mechanical Engineering Department, National Institute of Technology, Jamshedpur, India. He is working in the field of nonlinear vibrations, control, acoustics and hyper-elasticity.

## 8. Any other items considered to be significant

- Mr. Suman Tewary, Scientist, CSIR-CSIO, Chandigarh (6th December 2021) delivered a talk on “Data Analysis and Instrumentation: Opportunities and future prospects” at CSIR-NML.
- Abstract: With the rise of the digital world, all the sensors and instruments used in scientific and industrial research are becoming the source of enormous data in the form of image, signal, and temporal information. Instrumentation as a measurement science has played a pivotal role in developing devices to acquire such data. Extraction of relevant information from this data has become essential at CSIR-NML.



- Dr. Anjan Pradhan, Chief Scientist superannuated from CSIR-NML on 31-01-2022.



- Dr. (Ms.) Sheuli Hore, Sr. Principal Scientist superannuated from CSIR-NML on 31-01-2022.



- Mr. Kaushik Bhattacharya, Controller of Administration superannuated from CSIR-NML on 31-01-2022.



- Mr. Sheetal Kumar Singh, Laboratory Assistant superannuated from CSIR-NML on 31-01-2022.



- Mr. Sahdeo, Multi Tasking Staff superannuated from CSIR-NML on 31-12-2021.



- **Celebration of Republic Day**

The flag hoisting ceremony was held at the office and residential premise. The occasion was

celebrated with much enthusiasm.





- **World Hindi Day Celebrations (10th January 2022)**

A Hindi Poetry recitation program by the staff members ,was organized to celebrate the occasion at the laboratory .Technical lectures were also delivered by the scientists and research scholars viz. Dr. Arvind Sinha, Chief Scientist & Advisor Management, Dr. Ravi Kumar, Chief Scientist, Dr. Pratima Meshram, Principal Scientist, Dr. S.K. Jha, Principal Scientist, Dr. Krishna Kumar, Sr. Scientist, Mr. Somnath Das, Project Assiatant -II, Mr. Ajit Gangwanr, Project Associate.

- **Sad Demise of Staff**

Mr. Rahul Kumar Jha, Sr. T.O (1) passed away on 05th December 2021.



## 9. Scientific & Technical Services rendered

During this period the following industrial houses viz. Hindustan Aeronautics Ltd., Odisha , ACCELOR Microsystems, Mohali, Punjab , Adani Power Ltd., Maharashtra , CMPDIL, Ranchi , Eastern Coalfileds Ltd.,n , GTRE, Baangalaru , M/s. CRI Limited, Kolkata , M/s. CSIR-CIMFR, Dhanbad , M/s. Delhi Metro Rail Corporation Ltd , M/s. MOIL Limited, Nagpur , M/s. OMKARA UDYOG, Adityapur , M/s. Aarya Metallurgicals India P Ltd. , M/s. Alang Analytical Laboratories, Gujarat , M/s.Anshu Tech Labs Pvt. Ltd., New Delhi , M/s.API Ispat & Powertech (p) Ltd.,Raipur ,

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M/s.Arcelor Mittal Design and Eng. Centre P L , M/s.Arun & Co., Ghaziabad , M/s.Asian Test House, Faridabad , M/s.Berry Alloys Ltd., Andhra Pradesh , M/s.Bharat Coking Coal Ltd., Dhanbad , M/s.Bharat Forge Ltd., Pune , M/s.Bhumi Research Center, Gujarat , M/s.Bureau of Indian Standards , M/s.Chaithanya Geo Chem, Hospet , M/s.Deepak Kumar, Jamshedpur , M/s.ECotech Recycling Solutions,Jamshedpur , M/s.ESKAPS INDIA PVT LTD, Kolkata , M/s.Excel Surveyors Pvt. Ltd., Kolkata , M/s.Ferro Alloys Corporation Limited,Odisha , M/s.Fine Chemical Products, West Bengal , M/s.Fine Chemicals, Products, Kolkata , M/s.Frontier Springs Ltd., Kanpur , M/s.Gaurav Scientific & Chemicals, Raipur , M/s.GIEM India Consortium, Kolkata , M/s.GIRIDHAN Metal Pvt. Ltd., West Bengal , M/s.GVK Power (Goidwal Sahib), Punjab , M/s.Hindustan Traders, Odisha , M/s.IDMA Laboratories Ltd.,Haryana , M/s.IFB Industries Limited, GOA , M/s.Indian Air Force , Vadodara , M/s.JAMIPOL Limited, Jamshedpur , M/s.JSW Steel Ltd., Karnataka , M/s.Kalika Steel alloys P Ltd., Maharashtra , M/s.Kishore International, Delhi , M/s.Krishna Iron Strips & Tubes P Ltd Raipur , M/s.MGM Minerals Ltd., Bhubaneswar , M/s.Micro Products, Haryana , M/s.Mineral & Metallurgical Laboratoris , M/s.Mounika Traders, Bellary , M/s.Noble Tech Industries Pvt. Ltd. , M/s.Nuchem Scientific & Engineering, Odisha , M/s.NUVOCO VISTA CORP. LTD.,Chhatisgarh , M/s.Peekay Scientific Glassware, Indore , M/s.PURULIA METAL CASTING PVT. LTD.,PURULIA , M/s.Quality Test Lab Pvt. Ltd., Patna , M/s.R.Praveen Chandra, Bengaluru , M/s.R.V. Briggs & Co. Pvt. Ltd.Kolkata , M/s.Real Ispat & Power Ltd., Raipur , M/s.Real Power Pvt. Ltd., Chhatisgarh , M/s.RMA Scientific Solutions, Ballari , M/s.Sai Enterprises, Jamshedpur , M/s.Sandeep International, Punjab , M/s.SCIENCE WORLD & SERVICES, Nagpur , M/s.SGS India Private Ltd., Odisha , M/s.SGS India Pvt. Ltd., Dhanbad , M/s.Sheth & Co.,Maharashtra , M/s.Shivalay Ispat & Power Pvt. Ltd., , M/s.Shree Engineering Lab, Rajasthan , M/s.Shree Shyam Minerals, Odisha , M/s.Shri Mahavir Ferro Alloys Pvt. Ltd. , M/s.Stellar Test House, Noida , M/s.Truscience Research and Testing Lab Pvt. , M/s.UCIL, Jaduguda , M/s.VAS Spectrometers, Mumbai , M/s.Vineet Sahoo, Jamshedpur , M/s.Vishal Traders, Bhavnagar , M/s.VS Enterprises, Hospet , RDCIS, SAIL, RANCHI , Sree Rayalseema Hi-Strength Hypo Ltd. , Tata Bluescope Steel Limited,Pune , Tata Steel Limited, Jamshedpur , Vikram Sarabhai Space Centre, Kerala , Western Coalfileds Ltd, Nagpur , **received technical and scientific support from NML in the area of chemical analysis and physical test of their raw materials and finished products.**



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## 10. ECF Details

External Cash Flow (ECF) Status During: 2022-1-1 TO 2022-1-31

<i>Category</i>	<i>TOTAL (Figures in Rs. Lakh)</i>
Sponsored R&D	94.95622
Grant-in-Aid R&D	0
R&D Consultancy	0
Technical Services	15.95147
Collaborative/ Cooperative R&D	0
Premia/Royalty	0
TOTAL	110.90769



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END OF NEWSLETTER

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