भारत सरकार Government Of India
रेल मंत्रालय Ministry Of Railways
(रेलवे बोर्ड) (Railway Board)

Minutes Of The Meeting Of
'Mission Implementation And Coordination Committee (MICC)'
To
"Technology Mission For Indian Railways (TMIR)"

Held at Rail Bhawan, New Delhi on Friday, 2nd June, 2017

1. In terms of Railway Board's letter no. 2016/CE-I/Innov./2/TMIR, dated 24.05.17; meeting of the 'Mission Implementation & Coordination Committee (MICC)' to the "Technology Mission for Indian Railways (TMIR)" was held on 02.06.2017 at Rail Bhawan, New Delhi.

2. Shri A.K. Mital, Chairman, Railway Board very kindly consented to Chair the meeting.

3. Following officials were present :

A.	**Members of The 'MICC' To 'Technology Mission For Indian Railways' (TMIR) :**		
(1)	Prof. N.S. Vyas, *Chairman and Prof. IITK*	*vyas.nalinaksh@gmail.com*	*9956292801*
(2)	Shri Alok Kumar, *Co-Chairman and C.E./NR*	*alokalokindia@rediffmail.com*	*9910487302*
(3)	Shri Shailendra N. Jaiswal, *ED/E&R/R.Bd.*	*shailendra_jaiswal@yahoo.com*	*9910487329*
(4)	Dr. Kalpana Dube, *ED/Finance/RDSO*	*edfinrdso@gmail.com*	*9794863002*
(5)	Shri Sushil K. Singh, *ED/Research/RDSO*	*sksingh.diesel@gmail.com*	*9794863007*
(6)	Shri Om Prakash Tantia, *Industry Member*	*tantiaom@gmail.com*	*9831008640*
(7)	Shri Sunil Sherlekar, *Industry Member*	*sunil.d.sherlekar@gmail.com*	*9663090004*
B.	**Other Participants :**		
(8)	Shri A.K. Mital, *Chairman, Railway Board*	*crb@rb.railnet.gov.in*	
(9)	Shri M. Hussain, *Director General/RDSO*	*marghoobhussain59@gmail.com*	*9794863000*
(10)	Dr. Sanjay Bajpai, *Scientist 'G'/DST*	*sbajpai@nic.in*	*9868202791*
(11)	Shri Sanjay Kumar, *ED/Wagon/RDSO*	*edswagon@gmail.com*	*9794863026*
(12)	Shri Hamid Akhtar, *ED/Testing/RDSO*	*edrdsotesting@gmail.com*	*9794863023*
(13)	Shri V.K. Agarwal, *ED/SRESTHA/RDSO*	*vka.srestha@gmail.com*	*7522001331*
(14)	Shri Amit Saran, *Dir./E&R(ME)/R.Bd.*	*dermeenr@gmail.com*	*9717647259*
(15)	Shri Sameer Singh, *JD/GE-II/RDSO*	*dir.ge2.rdso@gmail.com*	*9794863380*

3. Shri Alok Kumar, Co-Chairman/TMIR extended a warm welcome to the Chairman, Railway Board, Mission Chairman, Members of 'MICC' and all the participants of meeting. He requested Chairman, Railway Board to give his guidance to TMIR and further directions for moving faster on the front of TMIR projects.

4. Prof. N.S. Vyas, Chairman/TMIR –

4.1 He made a presentation on the philosophy and guiding principle of setting up TMIR, which is channelising the resources, available in academic and research organisations in India, to drive indigenous R&D for development of technology for Indian Railways, in accordance with Hon'ble Prime Minister's Vision of 'Make in India' and the commitment of IR towards this objective, through declaration of TMIR (Technology Mission for Indian Railways) in the Budget Speech, 2015-16 by the Hon'ble Minister for Railways.

4.2 He presented a brief review of the projects undertaken under IR's earlier Mission, i.e. Technology Mission for Railway Safety (TMRS) : 2003-09. He informed that out of the dozen projects undertaken, in most of projects, prototypes were developed and technology transfer to RDSO was done. Most of the projects were deemed to be successful by RDSO and recorded so in the final minutes of MICC of TMRS in 2009.

5. Shri A.K. Mital, Chairman, Railway Board –

5.1 He appreciated vision and objectives of TMIR and the efforts, been put in so far by the MICC and assured that the Railway Board is committed to the speedy implementation of TMIR.

5.2 CRB clarified that there are no issues on funding to TMIR projects, because Railway's share is already available. He appreciated that consent has been given by MHRD and DST through their letters, informing their participation and funding towards TMIR projects, and emphasized that efforts should be made for quickly obtaining their financial contributions for project implementation.

5.3 CRB mentioned that DG/RDSO plays a very important role in prioritising projects based on Indian Railways' immediate needs. RDSO should quickly select priority projects with focus on overall safety scenario for Indian Railways and concentrate its energy into taking these projects to logical conclusion through TMIR.

5.4 He mentioned that role of Academic / Research Institutions and Industry is very important and they should play pro-actively in success of the TMIR projects. He stressed that effective steps for technology implementation must be taken by RDSO and Railway Board, once R&D stage is completed.

5.5 CRB evinced keen interest in the earlier TMRS projects of 2003-09 and its final output, as presented by Chairman/TMIR. He said that issues regarding safety have become even more critical and there seems to be no implementation except for one item 'WILD', which has been installed at 15 locations. He said, though much time has elapsed since then, efforts should be made to take the TMRS projects to logical conclusion, wherever possible. A separate effort towards this could be made by RDSO for enhancement of their existing Technology Readiness Levels (TRLs) of some of these projects of 'TMRS' and further implementation.

5.6 CRB mentioned that 'Development of Broken Rail Detection System' is a critical requirement and such a project should be accorded the top most priority, considering its impact on railway safety. Also, Rail Scanning / USFD Testing technologies with better reliability and effectiveness on full cross section vis-à-vis the existing system alongwith failure information on real time basis, needs to be developed and implemented. Development of reliable detection system, even at some extra cost is worth for Indian Railways and it should be aimed for success in the shortest possible time.

5.7 CRB also had a word of praise about the quality and expertise of the Members of MICC and appreciated the vision and stature of Chairman/TMIR and the leadership provided by him. He expressed confidence in the capability of TMIR team to deliver as per the mandate given to the Technology Mission. He thanked the participants and hoped that discussions by MICC would be successful in taking the objective of this Mission forward.

6. Dr. Sanjay Bajpai, Scientist 'G' / DST mentioned that funding commitment given through their letter was good enough, as it had come through with due and proper approvals. He said that funding would be done in whatever form required by TMIR and would not be a problem.

7. Dr. Sunil Sherlekar, Member/MICC mentioned that getting letters from MHRD & DST for promised funding are sufficient to start the TMIR projects; because these are commitments on record from the Govt. of India. Railways should start implementation of TMIR projects with funds allocated in its budget, without further delay. It was consented by most of the Members of MICC.

8. Shri O.P. Tantia, Industry Member of MICC stressed upon the need to make efforts and develop indigenous technologies rather than purchasing from abroad and later, continuing to depend on outsiders at their terms & conditions.

9. Deliberations were held on the **following projects** :

9.1 **Design of Advanced Performance Next Generation Wagon & Bogie** – Members of MICC opined that considering the long gestation period of this project, future requirements for heavy haul and also, commissioning of feeder routes for dedicated freight corridors; there has to be 'move ahead' in this project and accordingly, MICC sanctioned this project at a cost of Rs. 13.55 crore (while ED/Finance/RDSO viewed that design of freight bogies may not fulfill an immediate requirement of IR, she agreed that enhancement of indigenous design capability for bogies and wagons, through this project, is desirable).

9.2 **Design Methodology & Software Development for Formation Design** – As already deliberated in earlier meetings of MICC, based on sanction already accorded to this project by MICC at a cost of Rs. 1.68 crore; fund of Rs. 60 lakh was decided to be released to IIT/Roorkee, as initial grant and progress should be ensured by the PIs (ED/GE/RDSO and Prof./GE/IITR). However, non-requirement of Industry Partner in this project at this stage should be recorded by ED/GE/RDSO.

9.3 **Developing Capability for Testing of High Speed Rolling Stocks** – ED/Testing/RDSO will invite 'Expression of Interest' for developing testing capabilities and development of technologies for high speed rolling stocks. Accordingly, a fresh proposal will be presented by the PIs in subsequent meetings of MICC for evaluation and sanction by MICC under TMIR.

9.4 **'In-motion Weigh Bridge' based on Indigenous Technology, available for 'WILD'** – Project should be formulated and presented to MICC by ED/Wagon for development of 'In-motion Weigh Bridge', based on indigenous technology, available for 'WILD', which was developed by RDSO & IIT Kanpur in 2005. This project will be very useful, because there will be no constraint of either location of its installation or speed of train, while making weighment of wagons. This low hanging project should be taken on priority in Railway's interest.

9.5 **Rail Fracture Detection System** – Considering the urgency and priority of this project for Railways, ED/Track-1/RDSO should invite 'Expression of Interest' and formulate project to be taken up under TMIR in association with academic/research institutions. DG/RDSO was requested to get the project properly formulated and presented to MICC, so that sanctions may be accorded after due peer evaluation by MICC.

9.6 Sanction letters should be issued by ED/Research/RDSO accordingly and detailed project proposals should also be forwarded to MHRD and DST for needful action at their ends.

10. It was decided that RDSO and Railway Board will review final report of 'TMRS', prepared by RDSO in 2009 and Action Plan, listing out the difficulties in implementing, shall be prepared by a select committee of EDs of RDSO and then presented to MICC; so that CRB may be apprised alongwith further roadmap on implementation of those successful TMRS projects.

11. Co-Chairman mentioned that –

11.1 Hon'ble MoSR(S) had written on 28.04.17 to Hon'ble Human Resources Minister and Hon'ble Minister for Science & Technology; for assured funding of Rs. 75 crore each from MHRD and DST (Rs.35 cr. in 2017-18, Rs.25 cr. in 2018-19 and Rs.15 cr. in 2019-20) for TMIR projects and it was suggested that an MoU may be signed by the three Ministries to this effect.

11.2 DST, in continuation to their earlier consent letter, dated 17.10.17 have further communicated on 01.02.17, the approval of Secretary/DST after financial concurrence and have agreed for Railway's proposed MoU with slight modifications, which are agreeable to Railways.

11.3 MHRD have also conveyed their consent on 2nd June, 2017 in continuation to their earlier consent communication, dated 10.11.16 for fund sharing to TMIR projects through their IMPRINT scheme. In his letter no. 2-6/2015-Tel/TS.I, dated 02.06.17, Addl. Secretary, MHRD has further mentioned that –

"It may be noted that MHRD has sought the detailed project proposals of approved projects involving MHRD institutions. These project proposals have not come yet despite repeated persuasion. It is requested that these proposals may be immediately sent to the Ministry."

11.4 In view of above, it is important and urgent on the part of Ministry of Railways that Railways (DG/RDSO) decide the priority projects as per their needs (including Hon'ble MR's *'Take Away Items'* of Global Technology Conference, organised by IR in recent past), formulate detailed proposals as per template of approved Mission Management Manual and present these projects to MICC for peer reviews and sanction. This exercise will enable in forwarding these priority projects to MHRD and DST for their processing and releasing of fund, as already committed by them for TMIR projects.

11.5 After signing of MoU, demand for fund would be raised by Ministry of Railways (RDSO) to these two Ministries; so that fund transfer to 'TMIR Master Account' may materialise as per agreed provisions of the proposed MoU and in line with approved MMM.

12. ED/Finance/RDSO suggested that TMIR website needs to be developed & activated in which all presentations, made so far, need to be catalogued and uploaded. Chairman/TMIR was requested that this assignment may got be done within six months period in collaboration with ED/Finance. Cost to this effect may be charged to sanctioned Project of 'TMIR Office at IITK'.

13. As mentioned in Para 7 of minutes of MICC meeting, held on 24/03/17; IPR document needs to be finalised early. ED/Finance was requested to coordinate with other organisations and prepare the Draft IPR document for TMIR projects; so that it may be circulated to all Members of MICC in next one month period and may be finalised in the next meeting of MICC.

14. It was deliberated that procedures mentioned in MMM and mandate of Board, mentioned in its order, dated 28.4.15 for constitution of TMIR should be followed by MICC. All concerned should take necessary prescribed action accordingly as per decision of MICC and further instructions from Board w.r.t. projects, sanctioned by MICC or fund release etc. to these projects are not required, as also mentioned clearly in MMM.

15. The meeting concluded with Vote of Thanks to the Chair.

(No. 2016/CE-I/Innov./2/TMIR, New Delhi, Dated 14.06.2017)

14/06/17

(आलोक कुमार)
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Distribution :

- Director General, RDSO, Lucknow
- Chairman and all the Members of MICC to 'TMIR' (Technology Mission For Indian Railways)
- All the participants of the meeting.

Copy to :

- EDPG/MR and PS/MR for kind information of Hon'ble MR please.
- PS/MSR(S), PS/MSR(G) and ED/Innovation/MSR(S) for kind information of Hon'ble MSR(S) and Hon'ble MSR(G) please.
- PSO/Sr.PPS to CRB, ME, FC, MRS, MTR, MT, MS and Secretary for kind information of CRB, ME, FC, MRS, MTR, MT, MS and Secretary please.
- The Secretary, Ministry of Science & Technology, Secretary, Department of Science & Technology and Secretary, Ministry of HRD, New Delhi for information please.
- General Manager and Pr.CE, Northern Railway, New Delhi for information please.