Review Meeting of Industry 4.0 Project of TMIR held on 02.02.2021 via Video conferencing

A Meeting was held on 02.02.2021 through video conferencing to review progress on TMIR Project 'Pilot Project on Development and Implementation of Industry 4.0 Protocols for Rail-Coach Design & Manufacturing at Modern Coach Factory, Rae Bareli'.

Member/Participants:
Prof. N. S. Vyas, (IIT / Kanpur), Chairman
Shri Virendra Kumar, (DG/RDSO), Co-Chairman
Shri Umesh Balonda, ED/E&R/RB (Member)
Shri S.K.Singh , ED (Research)/RDSO (Member)

Other Participants:
Shri S.K. Katiyar, CPE/MCF
Dr. Anita Aggarwal, Scientist, DST
Shri Kuldeep Singh, Director E&R/ RB
Shri Chintalagiri Shashank, Proj. Executive Officer (Industry 4.0), IIT-K
Shri Shubham Pandey, Proj. Executive Officer (Industry 4.0), IIT-K
Shri Neel Aundhia, Proj. Executive Officer (Industry 4.0), IIT-K

1. ED/E&R welcomed all participants. During the meeting, progress of the project 'Pilot Project on Development and Implementation of Industry 4.0 Protocols for Rail-Coach Design & Manufacturing at Modern Coach Factory, Rae Bareli' was discussed and reviewed.

2. Shri S.K. Katiyar, CPE/MCF and IIT- Kanpur team gave detailed presentations on the progress of the project till February 2021.

3. During the presentation it was mentioned that development of 'intelligent scheduler' is the critical activity in this project. Interfacing of intelligent scheduler with other machines and load centres is to be done as a part of this project. The activities are in progress at shell shop of MCF/ RBL. The major activities of the projects are:

    - Detail engineering
    - Supplier of hardware & software
    - Integration of automation components
    - Implementation of MES & VPN
    - Testing and commission on VPN
    - Technology transfer and proliferation of lines shell shop and Railways

4. It was highlighted that the Machine-Monitoring platform prototype has been built and successfully tested. The indigenously based codes integrate machines with Siemens and Fanuc based controllers.

5. It was mentioned that the total sanctioned cost of the project is Rs. 16.63 Cr against which the amount released so far is Rs. 12.50 Cr. Total expenditure on various heads like manpower, procurement of software (LabVIEW, VI rail Adams etc.) travel & others etc., till date, as presented by IIT/K during the meeting, is Rs. 2.60 Cr.

6. Considerable cost saving has accrued by virtue of development of indigenous software suitable to our needs than procuring general purpose imported black-boxes from vendors.

7. Co-Chairman, MICC opined that there seems to be some gap in the understanding and appreciation of the intended project deliverables between IIT/K & MCF/RBL teams executing this project.

8. Chairman, MICC recommended that a timeline should be jointly drafted by IIT/K and MCF/RBL project team members so that the work can be expedited. The timelines could be communicated in the next meeting. However action may begin immediately, without waiting for presentation to the committee..

9. Chairman, MICC also informed that a lot of data regarding part-processing by various machines for various variants of coaches along with information on buy-make criterion is needed to achieving the Scheduling desirables of the project.

10. Dr. Anita Aggarwal (DST), suggested that the protocol being developed by IIT/K as a part of this project be suitably engineered by MCF/RBL engineers, to reduce future dependency on IIT/K and also gave emphasis on time delivery of the project.

11. **Decisions:** The following decisions were taken at the meeting :

    11.1 The Team of IIT Kanpur and MCF will jointly decide the deliverables & their timelines and same should be adhered.

    11.2 The Project will be further reviewed by MICC / TMIR on first Tuesday of every month at 11:00 hrs and joint presentation will be done by MCF.

    11.3 A team of dedicated professionals from MCF would be provided to work jointly with the IIT team on the Industry 4.0 project to complete the work on the shop floor within the targeted date and also train to carry out suitable modifications whenever required.

The meeting ended with a vote of thanks by ED(E&R) / Railway Board.

12.02.2021

(Umesh Balonda)
Executive Director (E&R)
Railway Board

No 2019/E&R/7(17)/1 Pt. dated 12.02.2021

Copy :

i. Prof NS Vyas, IIT Kanpur & Chairman / MICC of TMIR
ii. Director General RDSO, Co-Chairman/ MICC of TMIR
iii. General Manager/ MCF, Raebareli
iv. Members of MICC of TMIR