



PROJECT IMPLEMENTATION PLAN

PIP Issue Date	1 April 2019
Project Code	18-RP-42-GE-DON-C-02
Title	Development of Demonstration Companies on IT for Industry 4.0
Reference	APO Project Notification 18-RP-42-GE-DON-C dated 18 April 2018
Timing and Duration	May 2019–April 2020 The duration of the implementation of this project will be 12 months including the dissemination period. The commencement date is scheduled for May 2019. Tentative details of the implementation schedule will be given later.
Venue	New Delhi, India
Implementing Organization(s)	National Productivity Council (NPC, India) 5-6 Institutional Area, Lodi Road, New Delhi 110003, India Phone: +91-11-24690331/3 Fax: +91-11-24615002 e-Mail: isg@npcindia.gov.in

1. Objectives

Under the APO Center of Excellence (COE) on IT for Industry 4.0 umbrella, this project will establish demonstration companies to showcase the utilization of IT solutions for successful applications of Industry 4.0 technologies in processes to improve productivity. The selected demonstration companies are expected to:

- a. Identify and apply suitable IT solutions for Industry 4.0 that support the digitization process and improve manufacturing quality and overall productivity;
- b. Develop capacity in utilizing data, digitization, and the industrial Internet of Things to enhance and sustain productivity improvement; and
- c. Demonstrate and disseminate the process and results of applying IT solutions for Industry 4.0 to inspire other organizations, stakeholders, and individuals to embark on similar productivity improvement initiatives.

2. Background

The Fourth Industrial Revolution (Industry 4.0), characterized by increasing digitization and connected automation systems, has provided a leapfrogging opportunity in parallel with numerous challenges for SMEs. It is imperative for SMEs to move toward digitization and leverage related technologies to unlock opportunities for exponential growth and stay competitive in global value chains.

The COE on IT for Industry 4.0 set up in 2017 under the auspices of the NPC, India, will lead the development of demonstration companies on IT for Industry 4.0. This is also part of the COE's efforts to develop and share expertise with other APO member countries, while strengthening its position as a knowledge center on IT and its applications for Industry 4.0. The SME demonstration companies involved will be supported in applying and utilizing IT solutions for the successful application of Industry 4.0 technologies in organizational processes while improving productivity performance. This will also enhance the capacity for utilizing data, digitization, and the industrial Internet of Things to raise manufacturing quality while simultaneously reducing costs. The processes and results of this project will be disseminated to other organizations by the COE to achieve multiplier effects among SMEs.

3. Collaborating Partners

This activity is to be implemented in close collaboration with the following parties:

- a. The APO Secretariat (referred to as the APO in this document);
- b. The NPC, India; and
- c. UD Food Products Pvt. Ltd, Sanata Autoplast Pvt. Ltd, United Cores Private Limited, Arktron Electronics, and PeeEmpo Exports Pvt. Ltd (the demonstration companies).

4. Roles and Responsibilities

The roles and responsibilities of the parties involved are:

APO

- a. Coordinate communication among the international expert(s), NPC, and demonstration companies to ensure smooth implementation of the project;
- b. Identify, select, and assign an appropriate international technical expert(s) to the demonstration companies to implement productivity improvement plans and activities based on the application of IT solutions for Industry 4.0; and
- c. Advise the NPC and demonstration companies on planning and organizing a dissemination workshop for local participants and, if applicable, a multicountry observational mission for

overseas participants enabling them to learn directly from the experiences of the demonstration companies.

NPC

- a. Appoint a coordinator from the NPC office/branch who will serve as the focal point for communication and coordinate the overall schedule for implementation of the project in the country;
- b. Provide, in addition to a coordinator, the necessary number of technical experts from the NPC to work as counterparts to the international expert(s) assigned by the APO;
- c. Monitor closely the process of implementation, particularly the key performance areas;
- d. Measure the productivity improvement progress at the demonstration companies using quantitative and qualitative data and analyses;
- e. Coordinate and supervise the companies in the production of a multimedia record such as video/DVD demonstrating the experiences of the demonstration companies;
- f. Assist and supervise the demonstration companies in preparing an interim report and comprehensive final report for submission to the APO;
- g. Organize a dissemination workshop upon completion of the project to enable experience sharing and learning by the local public and/or international participants following the advice of the APO;
- h. Compile the overall activities of the project in a practical, easy-to-follow manual/guidelines so that similar exercises can be replicated by other enterprises in the country; and
- i. Prepare a final report, stressing analyses of the impact of the demonstration project on NPC activities and productivity promotion in the region in general, as well as suggestions/recommendations for replication elsewhere in the country with emphases on the utilization of local talent, local networks, and local resources.

Demonstration Companies

- a. Accept and facilitate consultancy services conducted by the expert(s) assigned by the APO and counterpart experts from the NPC;
- b. Designate a coordinator and necessary team members to work closely with the APO and NPC team of experts;
- c. Arrange all logistical requirements related to the project (such as local transportation, discussion rooms, etc.) for both the APO expert(s) and counterpart experts from the NPC;
- d. Submit an interim report at midterm to review the progress of implementation and identify corrections and adjustments as necessary;
- e. Record on video from the start of the process of implementation activities to produce a multimedia record such as video/DVD upon completion of the project in association and consultation with the NPC;
- f. Announce, publicize, and prominently display the APO's presence and involvement in the demonstration companies throughout the duration of the project;
- g. Share the experiences of the demonstration companies with local and overseas parties who are interested in learning about productivity improvement via applying IT solutions for Industry 4.0, including data analysis, digitization, the industrial Internet of Things, etc;
- h. Present the experiences in a dissemination workshop to be organized upon completion of the project; and
- i. Prepare a comprehensive final report for submission to the APO explaining the initiatives and technical details of the project, overall analyses of the benefits, impact of the application of IT solutions for Industry 4.0, and competitiveness gained by the demonstration companies upon completion of the project.

Expert(s)

- a. Provide consultancy and training in the areas specified in the productivity improvement plan;
- b. Organize training programs for skill development of the employees of the demonstration companies;
- c. Monitor and evaluate the performance and progress of the productivity enhancement activities of the companies on a continuing, regular basis;
- d. Assist the NPC in developing a training manual and multimedia dissemination materials for the demonstration project;
- e. Undertake the role of chief resource person in organizing a dissemination seminar/workshop.

5. Financial Arrangements

To be met by the APO

- a. All expenses for assignment of the overseas resource person(s) designated by the APO covering airfare, daily subsistence allowances, and overseas travel insurance;
- b. Expenses* for producing a practical manual for replication of the experience (to be prepared by the NPC) of up to USD2,000;
- c. Expenses* for the production of a video/DVD (to be prepared by the NPC) of up to USD3,000; and
- d. Expenses* for conducting a dissemination workshop for the local public (to be arranged by the NPC) of up to USD5,000.

*The disbursement of expenses will be made at the appropriate times corresponding with the specific activities undertaken and following submission of the necessary supporting documents under the applicable APO rules and regulations for disbursement of project expenses. Please also refer to clause 8.c of this document.

To be met by the NPC

- a. Expenses relating to the project management and assignment of a coordinator and NPO expert(s) involved in this project.

To be met by the demonstration companies

- a. Expenses for logistical arrangements related to the implementation of the project, including the local travel costs of the APO international expert(s) and NPC experts for transportation between the demonstration companies/sites and the NPC office/branch office;
- b. Costs associated with the purchase and installation of equipment and/or fixtures relating to the implementation of the project, if any; and
- c. All other expenses for the implementation of the project not covered by the APO and/or NPC.

6. Methodology

The project will be conducted in the following three stages:

- Planning;
- Implementation; and
- Evaluation and dissemination.

The planning stage consists of a diagnostic survey regarding the feasibility of applying relevant IT solutions in the demonstration companies, including understanding their operational processes, challenges faced, quality assurance requirements, level of digitization, and relevant data and

information on overall management before developing a master plan for the remainder of this project and its implementation. This stage will also involve capacity building of all stakeholders engaged in the implementation. It is expected to be completed within two months.

The implementation stage involves actual application of suitable technologies in the demonstration companies and relevant training that could raise the demonstration companies' manufacturing quality and cost-effectiveness and sustain this transformation. This refers to practical, action-oriented, onsite activities involving the international and local experts, NPC, and all other stakeholders. This stage will be carried out by the demonstration companies with the guidance of the experts and is expected to be completed in eight months.

The evaluation and dissemination stage includes the evaluation of improvement efforts and initiatives implemented and the dissemination of the results of the demonstration project through localized activities. The expert(s), NPC, and APO will conduct an evaluation upon the completion of the demonstration project to determine whether the objectives have been achieved. The evaluation will also extract the main lessons learned to provide a practical guide and encourage other organizations to follow it in the future. Among the main activities expected in this stage are the finalization and production of a practical manual, a multimedia record, and the organization of a national dissemination workshop. The NPC will take the lead in this stage and carry out dissemination activities ensuring multiplier effects. The NPC in consultation with the demonstration companies should submit the results for dissemination activities to the APO before the completion of this stage, which is expected to be completed in two months.

7. Project Schedule

It is expected that four visits of the APO expert(s) will be needed for this project, although the actual number and duration will be identified by the expert(s), demonstration companies, and APO after the first expert visit in June 2019. Subsequent visits should tentatively be scheduled at intervals of two to three months such as in September 2019, December 2019, and March 2020. The duration of each visit should be approximately within one to two weeks subject to the availability of the expert(s) and approval by the APO.

8. Accounting Procedures

- a. In regard to the expenses for the multimedia record and training manual production, 50% of the APO share can be advanced after the Project Implementation Plan is issued. The remaining 50% will be paid in exchange for the training manual, multimedia record, and final project report according to the proof of expense payment.
- b. If a local seminar/workshop is to be held, 50% of the APO share can be advanced before the seminar/workshop implementation and the remaining 50% will be paid after implementation according to the proof of expense payment.
- c. For the settlement of expenses, the NPC is requested to provide all necessary proof of payment to the APO after completion of the program. The proof of payment, such as bills, payment records, and receipts, should be issued by third parties and must be submitted to the APO altogether at one time. The proof of payment should be written in clear English or with an English translation if not originally in English. The final payment will be made based on the actual expenditure after the NPC submits the proof of payment, training manual, multimedia record, and the final project report. In general, internal evidence is not accepted as proof of payment and the expenses claimed by it will not be reimbursed.

9. Final Project Outputs

The project on establishing demonstration companies under the COE on IT for Industry 4.0 will be completed with the submission of the following:

- a. A final report prepared by the NPC and demonstration companies and endorsed by the NPC;
- b. A practical manual for replication (in soft copies and/or printed hard copies) prepared by the NPC and demonstration companies; and
- c. A multimedia record such as video/DVD of the experiences of the demonstration companies prepared by the demonstration companies.

The APO will issue a certificate of completion to the demonstration companies upon completion of the project.



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