



PROJECT IMPLEMENTATION PLAN

PIP Issue Date	12 December 2020
PIP Revision 1 Issue Date	28 July 2020
Project Code	17-RP-33-GE-DON-C-05
Title	Development of the Center of Excellence
Activity	Digital Innovation Process Guide for Manufacturing SMEs
Reference	APO Project Notification 17-RP-33-GE-DON-C dated 22 May 2017
Timing and Duration	January 2020–September 2020 (nine months) <u>Expert Group Meeting:</u> 26–27 August 2020 (two days) (virtual session)
Venue	APO Secretariat

Change History of Program Implementation Plan

Revision	Date of Issue	Clause	Modifications
Revision 1	28 July 2020	Timing and Duration	The timing of the coordination meeting has changed from 26–28 August 2020, New Delhi, India, to 26–27 August 2020, virtual session .
		3. Scope and Methodology	Scope under section 3 has been revised as follows. 2) Coordination meeting of experts: A meeting will be held virtually 26–27 August 2020 3) <Newly added> Dissemination of research findings and publication launch: A meeting will be held 9–11 December 2020 in New Delhi, India, to share the findings with relevant stakeholders of the COE on IT for Industry 4.0 in governments, and manufacturing SMEs.
		6. Financial Arrangements	Financial Arrangements section has been revised in accordance with the arrangements of virtual coordination meeting of experts, and research findings dissemination and publication launch meeting held 9–11 December 2020 in New Delhi, India

1. Objectives

- a. To analyze digital innovation processes suggested for use by SMEs to achieve sustainable growth and productivity gains; and
- b. To publish an approach paper guiding SMEs in the manufacturing sector in adopting digitization processes for Industry 4.0.

2. Background

The 4th Industrial Revolution (Industry 4.0), characterized by increasing digitization, connectedness, and operational integration among different companies in global value chains, has fundamentally transformed production systems. While large businesses have been quick to make the transition to the digital world, the majority of SMEs in the manufacturing sector, which are the backbone of industrial development, have yet to put digital technologies and digitization to work. SMEs in APO member countries are no exception. SMEs are on a fast-growth trajectory in APO economies, but only a small fraction of them have access to the types of ICT commonplace in larger enterprises. They face numerous challenges in staying competitive in global value chains.

Research on Industry 4.0 Digitization Strategies for SMEs was conducted in 2017 to assess the status, readiness to adopt, and initiatives related to Industry 4.0 of SMEs at national level. Although the different economic situations of the participating countries led to different approaches, there were commonalities in the needs of SMEs in preparation for Industry 4.0 digitization. Those needs included greater awareness of the benefits of Industry 4.0 digitization among all stakeholders and improved access to the Internet, advanced technologies, and funding for digitization initiatives among SMEs.

The research concluded in 2018 also showed that SMEs must embrace digital innovation to enhance efficiency, meet international quality standards, and strengthen their position as competent suppliers for the global market. Even though SMEs are willing to adopt new technologies to scale up their businesses and are aware that digitization is of prime importance, there are many barriers to overcome. A strategic focus on the integration of advanced technologies for digital transformation is needed. The lack of digital capabilities and knowledge of cybersecurity prevents many SMEs from taking advantage of Industry 4.0. Defining the starting point is another difficulty. SMEs in manufacturing seem to be more reluctant than their peers in other sectors. Top management plays a key role in leading digital innovation agendas. To support SMEs in the process of digital transformation for Industry 4.0, the Center of Excellence on IT for Industry 4.0 and the APO aim to publish an approach paper guiding SMEs in manufacturing in undertaking digital innovation by detailing specific methods.

3. Scope and Methodology

Scope

- 1) Conducting in-country research prior to the expert meeting:
 - a. Each expert will collect and analyze data under the guidance of the chief expert based on the research methodology, framework, and timeline circulated.
 - b. The experts will be responsible for collecting data, analyzing them, and writing a preliminary report for submission to the chief expert prior to the expert meeting.
 - c. The chief expert will compile the data collected by the other experts, consolidate their reports, and draft the approach paper.
- 2) Expert group meeting: A meeting will be held virtually 26–27 August 2020. The tentative topics of discussion are:
 - a. Proposed draft methodology approach paper;
 - b. Feedback on the pilot test results; and
 - c. Finalization of the methodology approach paper for publication.

- 3) Dissemination of research findings and publication launch: A meeting will be held 9–11 December 2020 in New Delhi, India, to share the findings with relevant stakeholders of the COE on IT for Industry 4.0.

Methodology

One chief expert will be assigned to lead the team of six experts.

4. Task Assignments of Experts

Chief expert's tasks:

- 1) Developing the guidelines, formulating the overall framework, and outlining the report structure for the research;
- 2) Providing support and advice to the other experts in collecting information and conducting the in-country pilot tests;
- 3) Reviewing the experts' preliminary reports and giving feedback prior to the meeting of experts;
- 4) Integrating the preliminary work of the experts and drafting a final methodology approach paper for finalization during the meeting;
- 5) Discussing and reconciling viewpoints during the meeting of experts for refining the paper;
- 6) Finalizing the meeting outputs and submitting a methodology approach paper to the APO Secretariat by the deadline; and
- 7) Supporting the APO Secretariat during the publication process.

Other experts' tasks:

- 1) Collecting data following the methodology, framework, and timeline circulated by the APO;
- 2) Providing information and insights to the chief expert following the guidelines;
- 3) Commenting on the draft paper prepared by the chief expert prior to the meeting;
- 4) Pilot testing the guidelines in some SMEs following the guidelines of the chief expert and APO;
- 5) Contributing to finalization of the notes during the meeting of experts; and
- 6) Cooperating with the chief expert to ensure the quality and consistency of the final publication.

5. Qualifications of Experts

The APO-appointed experts must possess the following:

- a. Extensive knowledge of SME operations, manufacturing digitization and transformation strategies, and digital innovation processes for SMEs, with publications in English on those topics;
- b. Excellent English writing and presentation skills, as the final report will be written in English; and
- c. Strong commitment to undertaking and completing the research project within the given time frame and producing the final methodology notes.

6. Financial Arrangements

To be met by the APO

- a. Honoraria for the experts to be paid upon completion of the final research report.

- b. All assignment costs for the experts including daily subsistence allowances, miscellaneous expenses, and round-trip international airfare by the most direct route between the international airport nearest to the experts' place of work and New Delhi for attending the research findings dissemination and publication launch meeting.
- c. Local implementation costs for the meeting package including meeting room rental and required equipment. Only invoices provided by the third parties may qualify for reimbursement.

To be met by the host country of the meeting to disseminate research findings and publication launch (India)

- a. All local implementation costs not covered by the APO; and
- b. Administrative costs of the project incurred by the NPC, including personnel costs and other costs related to preparation and coordination work.

To be met by experts

- a. Any expenses incurred by the experts for extra stay at the venue before and/or after the official project period due to early arrival, late departure, or any other reason must be borne by the experts attending the research findings dissemination and publication launch meeting.
- b. All local implementation costs incurred by the experts when conducting the research and related activities.
- c. All costs associated with the cancellation of attendance at the research findings dissemination and publication launch meeting by experts after the issuance of the Letters of Assignment.



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