



PROJECT IMPLEMENTATION PLAN

PIP Issue Date	28 June 2019
Project Code	18-RP-33-GE-DON-C-02
Title	Assessment of Smart Manufacturing and Needs of Member Countries
Reference	APO Project Notification for 18-RP-33-GE-DON-C dated 23 May 2018
Timing and Duration	1 July–31 December 2019 (six months) for research <u>Coordination Meeting:</u> 12–14 November 2019 (three days) Taipei, Republic of China
Venue	APO Secretariat
Number of Participating Countries	One chief expert and up to seven qualified national experts from the Republic of China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam However, other member countries with special interest in this project may nominate national expert candidates upon consultation with the APO Secretariat. The selection of the national experts will be based on the criteria outlined in section 4 below.
Closing Date for Nominations of National Experts	20 August 2019

1. Objectives

- a. To assess the extent of adoption of the smart manufacturing (SM) approach in different sectors in member countries; and
- b. To identify the priority needs of different sectors in member countries and recommend specific actions for promoting and adopting the SM approach.

2. Background

The China Productivity Center (CPC) as the APO Center of Excellence (COE) on SM was approved at the 61st session of the APO Governing Body in Manila, the Philippines (April 2019). APO Directors recognized the importance of riding the wave of Industry 4.0 and beyond to increase digitization and the interconnection of products, supply value chains, and business models. The existing COE established in Singapore (Business Excellence), the ROC (Green Productivity), the Philippines (Public-sector Productivity), and India (IT for Industry 4.0) have provided additional impetus for other member countries with demonstrated excellence in pertinent fields to offer their competitive strengths for knowledge sharing and best practice benchmarking.

The APO has implemented numerous projects supporting initiatives in member countries to promote the adoption of SM as an approach and key strategy to achieve sustainable development. It was therefore recommended that a COE on SM be established to strengthen the APO's efforts in this area.

This research will be undertaken to assess and document the extent of implementation and adoption of SM in member countries and identify emerging areas where SM needs to be the focus to support member countries' needs. The output of this research will help the COE on SM and the APO in designing and implementing SM activities that are relevant and attuned to the needs of members.

3. Scope and Methodology

Scope

- 1) Coordination Meeting:
A coordination meeting of experts will be held 12–14 November 2019 in Taipei, Republic of China. The details of the methodology and the overall research framework will be discussed during the expert coordination meeting.
- 2) Conducting in-country research:
Each national expert will gather primary and secondary data based on the agreed methodology and parameters. This activity will be undertaken and completed within six months. The provisional coverage of the research report will include:
 - i) Review of SM promotion and implementation in member countries (to focus on the institutional framework, key institutions/organizations involved, and their programs);
 - ii) Assessment of implementation of the SM approach in different settings (to focus on SM tools and techniques and their level of adoption by companies/enterprises and communities); and
 - iii) Priority needs in different settings in member countries to develop and/or strengthen capacities for SM promotion and implementation.

Methodology

The research will adopt the rapid appraisal (RA) approach to collect the required information quickly and systematically. A one-day national stakeholder's consultation will be conducted to validate and enhance the research output. NPOs are expected to support the national experts in conducting the consultation.

A chief expert will be designated by the APO who can oversee the details of the methodology for conducting the RA and stakeholders' consultation. A national expert will be invited from several member countries through NPOs to undertake the country-level study.

4. Qualifications of National Experts

The national experts must have substantial professional involvement, experience, and knowledge in the area of productivity, especially SM and sustainable development. They could be consultants from NPOs or researchers from academia, preferably with academic backgrounds in economics, public administration, manufacturing, and related fields. All experts must have excellent writing skills as confirmed by the publication of articles, books, or substantial reports on the subject of productivity, SM, and sustainable development. This should be reflected in their biodata.

5. Qualifications of the Chief Expert

The APO will designate the chief expert for the project who is an internationally known expert on SM and sustainable development with at least 10 years of relevant experience in the subject. He/she should be experienced in undertaking evaluations of projects or programs and need assessment. He/she must be proficient in written and spoken English and have published articles and/or reports in English. The chief expert will provide overall direction and supervision in conducting the research in consultation with the APO Secretariat focal officer and write an integrated report upon completion of the individual reports of the national experts to be submitted to the APO.

6. Financial Arrangements

To be met by the APO

- a. Honoraria for the chief and national experts to be paid upon completion of the final research report;
- b. All assignment costs for the chief and national 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 Taipei for attending the coordination meeting for the research; and
- c. Local implementation costs for the meeting package including meeting room rental and required equipment.

To be met by experts or participating countries

- 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 met by the experts attending the coordination meeting; and
- b. All local implementation costs incurred by the national experts when conducting the research and related activities at the national level.

7. Actions by Member Countries

- a. Member countries included in the research project are requested to submit appropriate nominations by 20 August 2019, in line with the provisions in section 4.
- b. Each nomination should be accompanied by the candidate's biodata on the standard APO form in duplicate along with a passport-sized photograph. In addition to the standard APO form, nominees should also prepare a list of publications, research, and/or consulting projects they have undertaken in this field. A nomination lacking any of these documents will not be considered.
- c. The selection of national experts will be based strictly upon their professional qualifications and experience, academic background, and commitment to this research.

8. Preparatory Work by National Experts

The selected national experts are required to prepare a preliminary report on the status of SM implementation in their countries. The reports will be presented at the coordination meeting to be held from 12 to 14 November 2019, and they will form the basis for further deliberations and development of the research. The preliminary reports should cover section 3.2) of this document. The designated chief expert, in consultation with the APO Secretariat, will coordinate and communicate any modifications in these points. A draft of the preliminary reports should be submitted to the chief expert and the APO Secretariat by 1 October 2019.



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Secretary-General