



PROJECT NOTIFICATION

PN Issue Date	27 March 2019
Project Code	19-IN-22-GE-TRC-A
Title	Training of Trainers on Assistance Systems for Cyberphysical Facilities
Timing and Duration	5–9 August 2019 (five days)
Venue	Taipei, Republic of China
Implementing Organization(s)	China Productivity Center (CPC)
Number of Overseas Participants	Up to 18 qualified participants
Number of Local Participants	Up to six qualified participants
Closing Date for Nominations	28 June 2019

1. Objectives

- a. To develop an understanding of cyberphysical systems (CPS), their applications in manufacturing, and the implications in the age of Industry 4.0;
- b. To support the initiation of manufacturing digitization in member countries by introducing concepts of the Internet of Things (IoT), robotics, data analytics, and the applications of basic assistance systems; and
- c. To provide hands-on experience to participants to facilitate their dissemination of knowledge on digitization in the manufacturing sector.

2. Background

Smart manufacturing takes advantage of the Internet and digital technologies to optimize factory operations and business management, contributing to more integrated value chains and more sustainable productivity improvement.

A CPS, as a mechanism comprising interacting digital, analogue, physical, and human components, controlled by algorithms, and integrated with the Internet and its users, signifies the core concept of smart manufacturing by linking physical systems with digital information flow and serves as the first step for manufacturers to move toward advanced manufacturing. Understanding the concepts and applications of CPS and basic assistance systems with similar features thus becomes an indispensable step to prepare manufacturers for upgrading in the age of Industry 4.0.

Since 2015, the APO has been assisting its members in building awareness, resilience, capabilities, and strategies for the transformation to Industry 4.0. The core mission is to catalyze industrial upgrading in member countries in response to the opportunities and challenges resulting from the new wave of industrialization by bridging knowledge and strategy gaps and providing technical knowledge support.

In 2018, it organized workshops in the ROC to develop member countries' understanding of their readiness for digital upgrading and basic industrial applications for SMEs. It also supported pilot cases of digitization in the automotive and health sectors in India and Thailand, respectively. This training of trainers will continue those efforts by sharing advanced knowledge on smart manufacturing and CPS and building technical capabilities for the trained participants to disseminate the knowledge and support upgrading in their countries.

3. Scope and Methodology

The tentative modules to be covered are:

- a. Smart manufacturing and Industry 4.0;
- b. Basic concepts and technologies of CPS;
- c. Applications of sensors, the IoT, and robotics for SMEs;
- d. Cases of CPS and assistance systems in smart factories; and
- e. Developing strategies for digitization in the manufacturing sector.

The workshop will consist of interactive lectures, hands-on exercises, case studies, discussions, site visit(s), and strategy development.

The tentative program of this project is given below:

Date/Time	Activity
Sunday, 4 August 2019	Arrival of participants in Taipei
Monday, 5 August	Opening session
	Presentation of resource papers
	- The concept of Industry 4.0 and productivity improvement
Tuesday, 6 August	- Trends and technologies in smart manufacturing
	Presentation of resource papers
	- The IoT, data, and CPS

Wednesday, 7 August	Practical hands-on activities - Sensors and IoT applications
Thursday, 8 August	Practical hands-on activities - Robotics applications Site visit(s)
Friday, 9 August	Practical hands-on activities - Developing a productivity plan Presentation of individual action plans
Saturday, 10 August	Closing session Departure of participants

4. Qualifications of Candidates

The participants are expected to possess the following qualifications:

Present Position	Government officials and policy officers involved in industrial policy, development strategies for the SME and manufacturing sectors, and productivity improvement initiatives; and senior representatives of industrial associations.
Experience	At least two years of experience in the position described above.
Education	University degree or equivalent qualification from a recognized university/institution.
Language	All proceedings of the project are conducted in English, and participants are frequently required to make oral and written presentations. They must therefore be proficient in spoken and written English. Those who are not proficient in English will not be accepted.
Health	Physically and mentally fit to attend an intensive project requiring participants to complete a number of individual and group activities and strenuous fieldwork. It is therefore recommended that member countries do not nominate candidates likely to suffer from physical and mental stress.
Age	Candidates who fit the above profile are typically between 30 and 50 years of age.
Attendance	Participants are required to attend the entire program.

5. Requirements

The participants are required to undertake preparatory work such as writing country papers prior to departure for the project venue.

All participants are required to prepare and submit action plans to the APO and to share them with their NPOs within 10 working days after attending the project. The participants are also required to submit postproject follow-up reports six months after project completion to document the achievement of outcome(s) of the project. NPOs will monitor the follow-up actions and report submission by participants.

The Guidelines for Project Preparatory Work will be provided in the project circular, and the Postproject Activity Guidelines are given in Attachment 1.

5-1. Repeat Participants (who attended previous APO projects and are applying for another)

- a. In the Candidate's Biodata form (application form), candidates are required to provide details of follow-up actions taken after attending a previous APO project(s) and outcomes (benefits) of those activities.
- b. Candidates are also required to state in the Candidate's Biodata form whether they submitted a

report on their follow-up actions.

5-2. All Participants

- a. In the Candidate's Biodata form, candidates are required to list their expectations from the project and planned postproject actions/activities. This is a tentative list, which participants are free to revise or replace after attending the project (as in item b below).
- b. All participants are required to develop and submit final follow-up action plans within 10 working days of project completion, in the format to be provided by the APO Secretariat later.
- c. All participants are required to submit reports on the follow-up actions taken within six months (or a period specified for a particular project) of project completion.
- d. The reports on follow-up actions are separate from the trip reports participants usually submit to their organizations/NPOs immediately after returning from project venues. The report format will be provided before project completion.

6. Financial Arrangements

6-1. Airfare

The APO will bear the cost of round-trip economy-class international airfare between the international airport nearest to the participants' place of work and Taipei, Republic of China, from organizations in any of these categories:

- a. SMEs;
- b. Nonprofit organizations; and
- c. Any organization from the APO list of LDCs.*

**As of 7 July 2006, the APO list of LDCs comprised Bangladesh, Cambodia, Fiji, Lao PDR, Mongolia, and Nepal.*

Participants should note that the arrangements for the purchase of air tickets should follow the "Guide on Purchases of Air Tickets for APO Participants," which will be sent to the selected participants and is also available on the APO website and from APO Liaison Officers in member countries.

6-2. Participating Country Expenses (PCEs)

PCEs payable to the APO do not apply to organizations in any of these categories:

- a. SMEs;
- b. Nonprofit organizations; and
- c. Any organization from the APO list of LDCs.*

**As of 7 July 2006, the APO list of LDCs comprised Bangladesh, Cambodia, Fiji, Lao PDR, Mongolia, and Nepal.*

6-3. Insurance Coverage

Participants' insurance premiums: All participants should be fully insured against accident and illness (including hospitalization and death) for a principal sum equivalent to USD10,000.00 for the entire duration of the project and travel and must submit to the APO Secretariat a copy of the comprehensive travel insurance certificate before participation. Such insurance should be valid in the host country. This insurance requirement is in addition to existing government insurance coverage in some member countries. Neither the APO nor the implementing organization will be responsible for any eventuality arising from accident, illness, acts of war, force majeure, or any unexpected events beyond human control such as those related to natural disasters.

6-4. Cost Sharing

Subject to the conditions stated in the Financial Arrangements section, the following table shows the cost-sharing arrangements between the APO, host country, and participants or participating countries.

Cost item	Cost to be borne by		
	Participants or participating countries	Host country	APO
Round-trip economy-class international airfare	Conditions apply	No	Conditions apply

Cost item	Cost to be borne by		
	Participants or participating countries	Host country	APO
(refer to paragraph on Airfare for conditions)			
Participating Country Expenses (PCEs) (refer to paragraph on Participating Country Expenses)	USD50 per participant	No	No
Hotel accommodation at the venue	No	Yes	No
Per diem allowance at the venue	No	Yes	No
Transportation costs to and from hotel and airport at the venue	No	Yes	No
Insurance coverage in the host country (refer to paragraph on Insurance Coverage)	Yes	No	No
Any expenses related to visa fees and airport taxes	Yes	No	No
All expenses incurred by participants for any reason including but not limited to: a. Stopovers b. Extension of stay c. Early arrival or late departure d. Flight cancellation	Yes	No	No
Any cancellation charges for expenses such as airfare and accommodations incurred by the APO or host country after issuance of Letters of Acceptance	Yes	No	No
Assignment costs of international resource persons	NA	No	Yes
Assignment costs of local resource persons	NA	Yes	No
All local implementation costs including but not limited to: a. Meeting rooms b. Documentation c. Preparatory costs	NA	Yes	No
Notes (special conditions):			

7. Actions by Member Countries

- Each participating country is requested to nominate three or more candidates in the order of preference. Please ensure that candidates nominated meet the qualifications specified under the section Qualifications of Candidates above.
- No form of self-nomination will be accepted. All nominations must be endorsed and submitted by an APO Director, Alternative Director, Liaison Officer, or their designated officer.
- Please note that nomination of a candidate does not necessarily guarantee that he/she will be selected. Selection is at the discretion of the selection committee of the APO Secretariat. A basic criterion for selection is the homogeneity of the participants in terms of qualifications and work experience. Nonselection therefore does not mean that the candidates concerned are not competent enough. Sometimes candidates are not selected because they are overqualified for a project.
- Each nomination should be accompanied by the necessary documents. A nomination lacking any of these documents may not be considered: two copies of the candidate's biodata on the APO biodata form together with a passport-sized photograph. The biodata form can be downloaded from the APO website (www.apo-tokyo.org). We encourage submitting the biodata form to the APO Secretariat in electronic form as an attachment to a cover e-mail message from the APO Director, Alternate Director, or Liaison Officer. The nomination documents should be sent to the department in charge of this project.

- e. The APO Medical and Insurance Declaration/Certification Form. Every candidate must complete and submit a copy of the APO Medical and Insurance Declaration/Certification Form with his/her biodata at the time of nomination. Please note that self-declaration is sufficient for candidates without any of the health conditions or illnesses listed on the reverse side of the medical form. However, for all others, medical certification by a licensed physician on the reverse side of the medical form is required.
- f. Necessary documents are to be submitted electronically. In that case, there is no need to send a hard copy by postal mail. However, if the documents are submitted by fax, member countries are requested to mail the originals of the documents to the APO Secretariat as well. If a digital photograph of a nominee is not attached to the electronic biodata form, a hard-copy photograph should be sent to the APO Secretariat by postal mail. Please give the candidate's name and the project code on the reverse side of the photograph.
- g. Member countries are requested to adhere to the nomination deadline given on page 1. The APO Secretariat may not consider late nominations as they have in the past resulted in considerable difficulties to the implementing organization in its preparatory work for the project.
- h. For member countries where nominations are required to be approved by higher government authorities and require a longer time, APO Liaison Officers/NPOs are urged to send the names of nominees on or before the deadline, indicating that government approval will follow.
- i. If a selected participant becomes unable to attend, he/she should inform the APO Liaison Officer/NPO in his/her country immediately and give the reason for withdrawal. The NPO concerned is requested to transmit that information to the APO Secretariat and the host country promptly.
- j. NPOs are requested to inform the selected participants that they are not to bring family members or to engage in any private business activities during the entire duration of the project.
- k. Each selected participant should be instructed to arrive at the venue one day before the start of the official project. Also, he/she is expected to return home upon completion of the official project because he/she is visiting the host country for the specific purpose of attending this APO project.
- l. NPOs should inform participants that they must attend the entire program of the project.
- m. NPOs should assist the APO and/or host country in collecting amounts corresponding to cancellation charges arising from withdrawal or no-show of a participant.

8. Actions by the APO Secretariat

- a. Under normal circumstances, candidates who are selected will be informed of their acceptance at least four weeks prior to the start of the project.
- b. If some candidates fail to qualify or be unable to participate after selection, or if some member countries fail to nominate any candidate, their slots may be filled by alternates from the same or another member country on a merit basis.

9. Project Preparation

The participants are required to prepare a short paper prior to departure for the project venue. In preparing the paper, they are expected to follow the "Guidelines for the Preparation of Country Papers" to be provided later.

10. Postproject Actions

All participants are required to prepare action plans and share the plans with their NPOs. The APO also requests participants to submit progress reports six months after completion of the project. In addition, participants taking part in training-of-trainers courses must also submit a report summarizing

a training project that they conducted following the action plans to the APO and NPOs within six months after project completion.

11. Evaluation of Participants

If the conduct/attendance/performance of a participant is not satisfactory, these will be reported to the APO director concerned.

12. Guide for Participants

Other conditions for participation are given in the *APO Guide for Participants*, which is available from APO Liaison Officers/NPOs in member countries and on the APO website (www.apo-tokyo.org).

13. Dress Code

Participants are required to wear business attire during the project. Other instructions will be provided in the circular for participants.



Dr. Santhi Kanoktanaporn
Secretary-General

POSTPROJECT ACTIVITY GUIDELINES

The follow-up actions by participants after project attendance determine the extent of multiplier effects (outcomes) of APO projects in member countries. The APO has therefore established an interdepartmental Participant Selection Committee to ensure selection of the most appropriate candidates. A key consideration is whether individuals are in a position, have the ability, and are willing to undertake follow-up actions after project attendance.

Each participant is required to undertake follow-up actions after attending an APO project based on his/her learning from it and report on those activities to the NPO of his/her country and the APO Secretariat, following the guidelines below:

Examples of Follow-up Activities

The examples below are suggestions and are not meant to limit participants' choices of follow-up actions:

- a. An official report on project attendance to participants' organizations, or NPOs, or both;
- b. Newspaper/magazine articles based on learning from the project;
- c. Application of knowledge, skills, techniques, or technologies for improving job performance and/or organizational capacity;
- d. Delivering a presentation or lecture on the project topic;
- e. Conducting a workshop/seminar/conference/forum on the project topic;
- f. Improving training/teaching/extension materials related to the project topic; and
- g. Sharing project findings with colleagues, professional groups, or others.