



(IN JAPAN)
**Knowledge Co-Creation
Program**
(Group & Region Focus)

General information on

**BUSINESS INNOVATION (IoT, AI) IN THE FOURTH
INDUSTRIAL REVOLUTION (4IR)**

**課題別研修「IoT, AI を活用した第四次産業革命のビジネス革新」
JFY 2022**

Course No.: 202107867J001

Course Period in Japan : From January 25, 2023 to March 2, 2023

This information pertains to one of the JICA Knowledge Co-Creation Programs (Group & Region Focus) of the Japan International Cooperation Agency (JICA) implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

JICA Knowledge Co-Creation Program (KCCP)

The Japanese Cabinet released the Development Cooperation Charter in February 2015, which stated, *“In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together.”* JICA believes that this ‘Knowledge Co-Creation Program’ will serve as a foundation of mutual learning process.

I. Concept

Background

Due to the technological innovation of the Fourth Industrial Revolution, a society that enables provision of individually customized production and services instead of mass production and uniform service provision, efficient utilization of existing resources and assets, and assistance or substitution of human being's labor by AI and robots, is being built worldwide, including in developing countries. From the producer's point of view, the way of producing and providing goods and services up to now may change drastically, and the efficiency of production may improve dramatically. From the consumer's point of view, it is expected that not only existing goods and services will be purchased at lower prices and in appropriate quantities at any time, but also new goods and services that are potentially desired can be enjoyed. However, there are disparities in the progress of each country, and it is required to apply the latest cases to their own countries and to collaborate with other countries.

For what?

This program aims to 1) learn about digital technology and various measures to utilize and disseminate in business in Japan, 2) promote 4IR through comparative study with their countries and dialogue with the Japanese government and private companies, and 3) contribute to industrial promotion of the participating countries and management innovation in their own industries.

For whom?

Ministry in charge of industrial/corporate promotion and international cooperation, local governments, chambers of commerce, industry groups that are interested in the promotion for 4IR.

How?

Participants shall have opportunities to learn about digital technology innovations related to data utilization such as IoT, big data, artificial intelligence in companies and various policies related to industrial promotion and management innovation support measures using IoT and AI by universities and local governments.

Participants will also extract the problems in participant's country and organization and make an action plan through the lectures and discussions.

II. Description

1. Title (Course No.)

**Business Innovation (IoT, AI) in the Fourth Industrial Revolution (4IR)
(202107867J001)**

2. Course Duration in Japan

January 25, 2023 to March 2, 2023

3. Target Regions or Countries

Azerbaijan, Brazil, Cameroon, Ethiopia, Georgia, Indonesia, Kyrgyz, Malaysia, Mongolia, Morocco, Pakistan, Philippines, Uganda, Uruguay and Vietnam

4. Eligible / Target Organization

This program is designed for persons who work at ministries in charge of industrial/corporate promotion and international cooperation, local governments, chambers of commerce, industry groups that are interested in the promotion for 4IR.

* with experiences over three years.

5. Capacity (Upper Limit of Participants)

15 participants

6. Language

English

7. Objective

To update IoT/AI and other digital technologies for the purpose of industrial promotion, management innovation and various measures for utilizing.

8. Output and Contents

This course consists of the following components. Details on each component are given below

Expected Module Output	Subjects/Agendas	Methodology
1) To understand the digital technologies such as IoT/AI in Japanese industry and various measures for their utilization and dissemination, and sort out the issues in your own country.	1)The Impact of the 4th Industrial Revolution on Economic Activities in Japan 2)Corporate Strategy for the Digital Age 3)Human Resource Development for DX 4)Start-up and Business Innovations with AI and IoT 5)TOC for Innovation ~ How to make breakthrough by digitization ~ 6)DX in the Toyota Production System 7)Introduction of the efforts of the Ministry of Economy, Trade and Industry 8)JICA's DX Support Project 9)Measures to Promote Digitalization of the	Lecture Practice Discussion

	<p>Region Centered on the Kyushu IoT Community</p> <p>10)Introduction of Policies to Support Robotics and Digitalization at Companies in Kitakyushu</p> <p>11)Efforts to Promote DX for Revitalizing the Regional Economy</p> <p>12)Digital Innovation Initiatives at Kyushu Institute of Technology</p>	
2) To consider applying it to your own country through examples of manufacturing and service industries in Japan, including the Kyushu area.	<p>13)Ryowa's DX (AI inspection system)</p> <p>14)DX in the food industry</p> <p>15)Opening New Business Fields Using Digital Technologies</p> <p>16)Creation of Leading Models to Increase Productivity Using DX</p> <p>17)Becoming a Lean Company Through Widespread Use of Digital Technologies</p> <p>18)Challenges Met by a Small Construction Company</p> <p>19)Smart Factory Tour-Toyota Motor</p> <p>20)Smart Factory Tour-Unicharm</p>	Lecture Site Visit
3) To understand the digital technologies of vendors and system integrators and how they are used.	<p>21) IoT/AI Solutions to Support DX</p> <p>22) Initiatives to Apply Robot Slers for Pursuing DX in Manufacturing</p> <p>23) ICS SAKABE's Efforts as a Robot System Integrator</p> <p>24) Visit to Yaskawa Robot Center</p> <p>25) 3D Printer Opens Up Avenue to Manufacturing Innovatio</p> <p>26) Examples of DX Promotion in Childcare, Nursing Care, and Food/Beverage Industries</p> <p>27) IoT for Nursing Care</p> <p>28) Smart Agriculture Initiatives</p> <p>29) DX for back office operations reform</p> <p>30) Current Status and Issues in Cyber Security</p>	Lecture Site Visit
4) To be able to propose support measures to your organization through considering areas of cooperation and activity	<p>31) Problem Solution using IAS</p> <p>32) Hearing of Job Report and IAS</p> <p>33) Job Report Presentation</p> <p>34) Lecture on Action Plan Creation</p> <p>35) Review & Discussion</p>	Lecture Presentation Discussion Self-study

plans that are beneficial to your country and Japan..	36) Evaluation & Discussion of the Obtained Information 37) Instruction on Action Plan Creation 38) Action Plan Presentation	
---	--	--

III. Eligibility and Procedures

1. Expectations to the Applying Organizations

- (1) This course is designed primarily for organizations that intend to address specific issues or problems identified in their operation. Applying organizations are expected to use the program for those specific purposes.
- (2) This course is enriched with contents and facilitation schemes specially developed in collaboration with relevant prominent organizations in Japan. These special features enable the course to meet specific requirements of applying organizations and effectively facilitate them toward solutions for the issues and problems.

2. Nominee Qualifications

Applying organizations are expected to select nominees who meet the following qualifications.

(1) Essential Qualifications

- 1) Current Duties:
 - a. staffs of ministries in charge of industrial/corporate promotion and international cooperation, local governments, chambers of commerce, industry groups that are interested in the promotion for 4IR.
- 2) Experience in the Relevant Field: have more than 3 years' experience in the field of promotion for 4IR
- 3) Educational Background: be a graduate of university
- 4) Language Proficiency: have a competent command of spoken and written English
- 5) Health: must be in good health to participate in the program in Japan. To reduce the risk of worsening symptoms associated with respiratory tract infection, please be honest to declare in the Medical History (QUESTIONNAIRE ON MEDICAL STATUS RESTRICTION of the application form) if you have been a patient of following illnesses; Hypertension / Diabetes / Cardiovascular illness / Heart failure / Chronic respiratory illness.

(2) Recommended Qualifications

Expectations for the Participants

- 1) Age: between the ages of twenty-five (25) and fifty (50) years
- 2) Gender Equality and Women's Empowerment: Women are encouraged to apply for the program. JICA is committed to promoting gender equality and women's empowerment, and provides equal opportunities for all applicants regardless of their sexual orientation or gender identity.
- 3) Difficulties/Disabilities: The participation of person with difficulties/disabilities is welcomed. Reasonable accommodation for persons with difficulties/disabilities

will be made. Please write your situation in the Questionnaire on medical status restriction of the Application form. (Japan ratified the Convention on the Rights of Persons with Disabilities in January 2014 and JICA has observed it.)

3. Required Documents for Application

(1) **Application Form:** The Application Form is available at **the JICA overseas office (or the Embassy of Japan)**

* If you have any difficulties/disabilities which require assistance, please specify necessary assistances in the QUESTIONNAIRE ON MEDICAL STATUS RESTRICTION (1-(c)) of the application form. Information will be reviewed and used for reasonable accommodation.

(2) **Photocopy of Passport:** You should submit it with the application form if you possess your passport which you will carry when entering Japan for this program. If not, you are requested to submit its photocopy as soon as you obtain it.

*The following information should be included in the photocopy:

Name, Date of Birth, Nationality, Sex, Passport Number and Expiry Date

(3) **English Score Sheet:** to be submitted with the application form, if the nominees have any official English examination scores. (e.g., TOEFL, TOEIC, IELTS)

(4) **Job Report & Issue Analysis Sheet (IAS): to be submitted with the application form.** The documents should be completed in accordance with descriptions of Annex-1 (Job Report) and Annex-2 (Issue Analysis Sheet). Each applicant should submit his/her IAS with approval of his/her superior.

4. Procedures for Application and Selection

(1) Submission of the Application Documents

Closing date for applications: **Please confirm the local deadline with the JICA overseas office (or the Embassy of Japan).**

(All required material must arrive at **JICA Center in Japan by November 18, 2022**)

(2) Selection

Primary screening is conducted at the JICA overseas office (or the embassy of Japan) after receiving official documents from your government. JICA Center will consult with concerned organizations in Japan in the process of final selection. Applying organizations with the best intentions to utilize the opportunity will be highly valued.

The Government of Japan will examine applicants who belong to the military or other military-related organizations and/or who are enlisted in the military, taking into consideration of their duties, positions in the organization and other relevant information in a comprehensive manner to be consistent with the Development

Cooperation Charter of Japan.

(3) Notice of Acceptance

The JICA overseas office (or the Embassy of Japan) will notify the results **not later than December 9, 2022.**

5. Conditions for Participation

The participants of KCCP are required

- (1) to strictly observe the course schedule,
- (2) not to change the air ticket (and flight class and flight schedule arranged by JICA) and lodging by the participants themselves,
- (3) to understand that leaving Japan during the course period (to return to home country, etc.) is not allowed (except for programs longer than one year),
- (4) not to bring or invite any family members (except for programs longer than one year),
- (5) to carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the Japanese Government in respect of the course,
- (6) to observe the rules and regulations of the program implementing partners to provide the program or establishments,
- (7) not to engage in political activities, or any form of employment for profit,
- (8) to discontinue the program, should the participants violate the Japanese laws or JICA's regulations, or the participants commit illegal or immoral conduct, or get critical illness or serious injury and be considered unable to continue the course. The participants shall be responsible for paying any cost for treatment of the said health conditions except for the medical care stipulated in (3) of "5. Expenses", "IV. Administrative Arrangements",
- (9) to return the total amount or a part of the expenditure for the KCCP depending on the severity of such violation, should the participants violate the laws and ordinances,
- (10) not to drive a car or motorbike, regardless of an international driving license possessed,
- (11) to observe the rules and regulations at the place of the participants' accommodation, and
- (12) to refund allowances or other benefits paid by JICA in the case of a change in schedule.

IV. Administrative Arrangements

1. Organizer (JICA Center in Japan)

(1) **Center:** JICA Kyushu Center (JICA KYUSHU)

(2) **Contact:** kictp@jica.go.jp

Person in charge: Yukimasa Nakano

(3) **URL** : (a) Introduction of JICA Kyushu

<https://www.jica.go.jp/kyushu/english/office/index.html>

(b) Introduction of Knowledge Co-Creation Program

<https://www.youtube.com/watch?v=SLurfKugrEw>

2. Implementing Partner

(1) **Name:** Kitakyushu International Techno-cooperative Association(KITA)

(2) **URL:** <http://www.kita.or.jp/english/>

3. Travel to Japan

(1) **Air Ticket:** In principle, JICA will arrange an economy-class round-trip ticket between an international airport designated by JICA and Japan.

(2) **Travel Insurance:** Coverage is from time of arrival up to departure in Japan. Thus traveling time outside Japan (include damaged baggage during the arrival flight to Japan) will not be covered.

4. Accommodation in Japan

Basically, JICA will arrange the following accommodations for the participants in Japan:

JICA Kyushu Center (JICA KYUSHU)

Address: 2-1, Hirano 2-chome, Yahata Higashi-ku, Kitakyushu-shi,
Fukuoka Prefecture 805-8505, Japan

TEL: +81-93-671-6311 FAX: +81-93-671-0979

(where "81" is the country code for Japan, and "93" is the local area code)

If there is no vacancy at JICA Kyushu, JICA will arrange alternative accommodation(s) for the participants.

<https://www.jica.go.jp/kyushu/english/office/index.html>

5. Expenses

The following expenses will be provided for the participants by JICA:

(1) Allowances for meals, living expenses, outfits and shipping and stopover.

(2) Expenses for study tours (basically in the form of train tickets)

(3) Medical care for participants who become ill after arriving in Japan (the costs related to pre-existing illness, pregnancy, or dental treatment are not included)

(4) Expenses for program implementation, including materials

For more details, please see "III. ALLOWANCES" of the brochure for participants titled "KENSU-IN GUIDE BOOK," which will be given before departure for Japan.

*Link to JICA HP (English/French/Spanish/Russian):

https://www.jica.go.jp/english/our_work/types_of_assistance/tech/acceptance/training/index.html

6. Pre-departure Orientation

A pre-departure orientation will be held at respective country's JICA office (or the Japanese Embassy), to provide Participants with details on travel to Japan, conditions of the course, and other matters.

*YouTube of "Knowledge Co-Creation Program and Life in Japan" and "Introduction of JICA Center" are viewable from the link below.

Image videos of 'Introduction of JICA Center (YouTube)' show the following information of JICA Centers: Location, Building, Entrance, Reception(Front desk), Lobby, Office, Accommodation(Room), Amenities(Hand dryer), Bathroom(Shower and Toilet), Toiletries, Restaurant, Laundry Room(Washing machine, Iron), ICT Room(Computer for participants), Clinic, Cash dispenser, Gym, Neighborhood

Part I: Knowledge Co-Creation Program and Life in Japan	
English ver.	https://www.youtube.com/watch?v=SLurfKugrEw
French ver.	https://www.youtube.com/watch?v=v2yU9ISYcTY
Spanish ver.	https://www.youtube.com/watch?v=m7I-WIQSDjI
Russian ver.	https://www.youtube.com/watch?v=P7_ujz37AQc
Arabic ver.	https://www.youtube.com/watch?v=1iBQgdpXQb4
Part II: Introduction of JICA Centers in Japan	
JICA Hokkaido (Sapporo)	https://www.jica.go.jp/sapporo/english/office/index.html
JICA Hokkaido (Obihiro)	https://www.jica.go.jp/obihiro/english/office/index.html
JICA Tohoku	https://www.jica.go.jp/tohoku/english/office/index.html
JICA Tsukuba	https://www.jica.go.jp/tsukuba/english/office/index.html
JICA Tokyo	https://www.jica.go.jp/tokyo/english/office/index.html
JICA Yokohama	https://www.jica.go.jp/yokohama/english/office/index.html
JICA Hokuriku	https://www.jica.go.jp/hokuriku/english/office/index.html
JICA Chubu	https://www.jica.go.jp/chubu/english/office/index.html
JICA Kansai	https://www.jica.go.jp/kansai/english/office/index.html
JICA Chugoku	https://www.jica.go.jp/chugoku/english/office/index.html
JICA Shikoku	https://www.jica.go.jp/shikoku/english/office/index.html
JICA Kyushu	https://www.jica.go.jp/kyushu/english/office/index.html
JICA Okinawa	https://www.jica.go.jp/okinawa/english/office/index.html

V. Other Information

1. Job Report & Issue Analysis Sheet (IAS)

Each applicant is required to submit his/her own Job Report & Issue Analysis Sheet following the instruction. Visual materials such as Power Point and pictures may be helpful.

The form of Job Report and IAS is written in Annex sheet hereinafter.

Candidates should describe the items below in Job Report.

- 1) Your organization and your task
- 2) Existing challenges in your section
- 3) Expectations for the training course

Particularly item 2), we request specific as well as detailed description so that this training course can suggest serviceable advice. Simple description such as “Lack of budget” “Lack of market “and “Lack of Manpower and Technology” cannot give us any information to judge the issue for its solution. This item is quite related to Issue Analysis Sheet (IAS) that candidates are also requested to submit. We regard item 2) as the most critical description in order to qualify the participant in this course.

Therefore, candidates are requested to describe item 2) specifically and accurately in detail so that we can understand your passion for attending the course.

In addition, IAS as the summery of item 2) has to be submitted along with Job Report.

2. Certification

Participants who have successfully completed the training program will be awarded a certificate by JICA.

3. Remarks

JICA training is implemented for the purpose of development of human resources who will promote the advancement of the countries, but not for the enrichment of individuals nor private companies. Matters of a trade secret and patent techniques will remain confidential and inaccessible during the training.

VI. Annex

- 1. Job Report (Annex-1)**
- 2. Issue Analysis Sheet (Annex-2)**

Annex-1

Business Innovation (IoT, AI) in the Fourth Industrial Revolution (4IR)

Job Report

Name:

Country:

Organization and present post:

E-mail:

Remarks 1:The Report should be typewritten in English (12-point font, A4 size paper), and total pages of the report should be limited to 3 pages.

Remarks 2: Each participant is required to have presentation in 10 minutes based on this Job Report and IAS at the early stage of the training for the purpose of making the training more effective and fruitful by comprehending the situations and problems of the participants each other. It is also requested to prepare a POWER POINT for the presentation.

Remarks 3: Please itemize your answer and make them specific.

1. Your organization and your task

- 1) Brief your organization's role in driving business innovation through DX in your country.
- 2) Organization chart:
Please draw a chart of your organization including the department (section) names with the number of staffs in it and mark where you are positioned.
(The chart should be attached and not be counted in this page limit.)
Please describe a duty of each department (section) briefly.
- 3) Brief description of your assignments.

2. Existing challenges in your section

- 1) Challenges you are facing in your section
- 2) Countermeasures for these challenges
- 3) Obstacles in the process of solving those challenges

3. Expectations for the training course

- 1) Your purpose of participating in the course
- 2) Subjects of the course which you are interested in the most
- 3) How do you expect to apply skills and knowledge for overcoming challenges according to listed items in curriculum (in the previous section) after finishing this program?

4. Write if there is a theme you want to know in particular.

Annex-2 Issue Analysis Sheet (IAS) Guidelines

1. What is IAS?

- (1) IAS is a tool to logically organize relationships between issues and contents of the training program in Japan.
- (2) IAS will help the nominee to clarify his/her challenges to be covered in each expected module output and to formulate solutions to them.
- (3) The sheet is to be utilized as a logical process control sheet to draw up improvement plans for the issues by filling out the sheet in phases from prior to the nominee's arrival through to the end of the training.
- (4) In addition, it is used for the course leader and lecturers to understand the issues that each participant is confronting, and provide him/her with technical advice, useful references and solutions through the training program in Japan.

2. How to fill out IAS?

- (1) Please describe the issues you confront in column "**A: Issues that you confront**".

You shall describe challenges you are facing in your section also in the Job Report. Among them, in column A, please describe only those issues you expect to solve utilizing information and knowledge being delivered in this training course. Prepare the separate rows for each problem; if necessary, please add new rows.

- (2) In column "**B: Actions that you are taking**", please describe actions that you are taking to solve the issues shown in "**Column A**".

This information is very important to carry out the training course and also to make Action Plan as a fruit of the training.

- (3) It's not necessary to fill in column "**I : Task or the information that I need**", column "**II : Useful information that I obtained/found**" and column "**III : Lecturer**". These columns shall be filled out during the training.

- (4) "**Column I**" shall be clarified and filled out in the subject "**Task extraction using IAS**" implemented at the earlier time in the training.

- (5) "**Column II**" and "**Column III**" shall be filled out during the training and you are required to present completed IAS in the subject "**Action Plan Presentation**".

Issue Analysis Sheet (IAS)

Country:

Name:

No	【A】* Issues that you confront.	【B】 Actions that you are taking.	
1			
	【 I 】 Task or The information that I need.	【 II 】 Useful information that I obtained /found.	【 III 】 Lecturer

No	【A】* Issues that you confront.	【B】 Actions that you are taking.	
2			
	【 I 】 Task or The information that I need.	【 II 】 Useful information that I obtained /found.	【 III 】 Lecturer

No	【A】* Issues that you confront.	【B】 Actions that you are taking.	
3			
	【 I 】 Task or The information that I need.	【 II 】 Useful information that I obtained /found.	【 III 】 Lecturer

【 I 】,【 II 】,【 III 】 These columns will be filled during the training course.

*** You shall describe challenges you are facing in your section also in the Job Report. Among them, in column A, please describe only those issues you expect to solve utilizing information and knowledge being delivered in this training course.**

For Your Reference

JICA and Capacity Development

Technical cooperation is people-to-people cooperation that supports partner countries in enhancing their comprehensive capacities to address development challenges by their own efforts. Instead of applying Japanese technology per se to partner countries, JICA's technical cooperation provides solutions that best fit their needs by working with people living there. In the process, consideration is given to factors such as their regional characteristics, historical background, and languages. JICA does not limit its technical cooperation to human resources development; it offers multi-tiered assistance that also involves organizational strengthening, policy formulation, and institution building.

Implementation methods of JICA's technical cooperation can be divided into two approaches. One is overseas cooperation by dispatching experts and volunteers in various development sectors to partner countries; the other is domestic cooperation by inviting participants from developing countries to Japan. The latter method is the Knowledge Co-Creation Program, formerly called Training Program, and it is one of the core programs carried out in Japan. By inviting officials from partner countries and with cooperation from domestic partners, the Knowledge Co-Creation Program provides technical knowledge and practical solutions for development issues in participating countries.

The Knowledge Co-Creation Program (Group & Region Focus) has long occupied an important place in JICA operations. About 400 pre-organized courses cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs is being customized by the different target organizations to address the specific needs, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

Japanese Development Experience

Japan, as the first non-Western nation to become a developed country, built itself into a country that is free, peaceful, prosperous and democratic while preserving its tradition. Japan will serve as one of the best examples for our partner countries to follow in their own development.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from a process of adoption and adaptation, of course, has been accompanied by countless failures and errors behind the success stories.

Through Japan's progressive adaptation and application of systems, methods and technologies from the West in a way that is suited to its own circumstances, Japan has developed a storehouse of knowledge not found elsewhere from unique systems of organization, administration and personnel management to such social systems as the livelihood improvement approach and governmental organization. It is not easy to apply such experiences to other countries where the circumstances differ, but the experiences can provide ideas and clues useful when devising measures to solve problems.

JICA, therefore, would like to invite as many leaders of partner countries as possible to come and visit us, to mingle with the Japanese people, and witness the advantages as well as the disadvantages of Japanese systems, so that integration of their findings might help them reach their developmental objectives.



Contact Information for Inquiries

For inquiries and further information, please contact the JICA overseas office or the Embassy of Japan. Further, address correspondence to:

JICA Kyushu Center (JICA KYUSHU)

Address: 2-2-1 Hirano, Yahata-Higashiku, Kitakyushu-shi, Fukuoka, 805-8505 Japan