

Template for a National / Regional Deployment Committee

Activity Report

Nation / Region Name: Japan

Date Activity Report Issued: March 15 2022

Note: To be prepared and delivered annually as scheduled by the IHE International Board and Deployment Committee Report Coordinator.

Mission of the National / Regional IHE initiative

The IHE Japan aims to contribute to the maintenance and improvement of Japanese public health and quality of life by offering Integrating Healthcare Enterprise (IHE) activities to promote system interconnection and the use of a safer, more efficient and convenient information exchange. We have been engaging in the following activities to this end.

1. Contributing to high quality and efficient provision of health services through IHE activities.
2. Implementing IHE activity processes
 - a. Preparing the operation process (hereinafter referred to as “the workflow model”) in the Health Care System.
 - b. Preparing IHE technical documents (hereinafter referred to as “the technical framework”) based on the workflow model.
 - c. Performing interoperability studies (Connectathon tests) based on the technical framework.
 - d. Conducting public relations regarding IHE activities
3. Coordinating international IHE activities
4. Promoting the introduction of IHE into health care institutes.
5. Carrying out other activities to achieve our aim.

Sponsors of the National / Regional IHE Initiative

Sponsoring Organization(s):

Key role of the Sponsor:

Japan Radiological Society (JRS): JRS is a sponsor of IHE Japan, providing Radiological domain expertise.

Japan Association for Medical Informatics (JAMI): JAMI is a sponsor of IHE Japan, providing expertise for Medical Informatics.

Japanese Society of Radiological Technology (JSRT): JSRT is a sponsor of IHE Japan, providing Radiological domain expertise.

Medical Information System Development Center (MEDIS-DC): MEDIS-DC is a sponsor of IHE Japan, promoting the standardization of healthcare information systems.

Japan Medical Imaging and Radiological Systems Industries Association (JIRA): JIRA is a sponsor of IHE Japan, providing the expertise regarding Medical Imaging and Radiological Systems.

Japanese Association of Healthcare Information Systems Industry (JAHIS): JAHIS is a sponsor of IHE Japan, providing expertise regarding Healthcare Information Systems.

IHE International Board Representative

Name of Representative: Michio Kimura
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Term ends: n/a

National / Regional IHE Initiative Secretariat

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Date Deployment Committee was first recognized by IHE International Board:
July 2001

Organization of IHE national/regional committee:

IHE Japan was established in 2001 and was incorporated in 2007.
Officers were supplied by 6 organizations which are sponsors of IHE Japan. The current officers, whose term of office is two years, are as follows.

Aoki Shigeki (Japan Radiological Society, JRS)
Michio Kimura (Japan Association for Medical Informatics, JAMI)
Jyunji Shiraishi (Japanese Society of Radiological Technology, JSRT)
Ryuichi Yamamoto (Medical Information System Development Center, MEDIS-DC)
Akio Niinobe (Japan Medical Imaging and Radiological Systems Industries Association, JIRA)
Yoshiro Shikishi (Japanese Association of Healthcare Information Systems Industry, JAHIS)

Yutaka Ando	Chairman of the board, Japan Community Healthcare Organization Saitama Medical Center
Minoru Hosoba	Vice Chairman of the board, Professor of Kyoto College of Medical Science
Michio Kimura	Vice Chairman of the board, Professor of Hamamatsu University School of Medicine
Norinari Honda	Vice Chairman of the board, Saitama Sekishinkai Hospital
Kouji Miura	Vice Chairman of the board, Keio University Hospital

The Board members include the above 4 members and the following. The term is two years.

Chairman: Yutaka Ando (user)

Vice Chair: Minoru Hosoba (user), Michio Kimura (user), Norinari Honda (user), Kouji Miura (user)

Board members:

Chikayoshi Yuzawa (vendor)
Hiroaki Tada (user)
Hiroaki Takano (vendor)
Hiroshi Sakamoto (user)
Hiroshi Watanabe (user)
Koichiro Murata (user)
Masayoshi Seki (vendor)
Yoshiaki Morita (vendor)
Tsuneo Yamada (user)
Tsutomu Nozu (vendor)
Yasunari Shiokawa (vendor)
Yutaka Emoto (user)

There are committees on the following:

Steering Committee

Chair: Yutaka Ando (user)

Testing and Tools Committee

Co-Chair: Yasunari Shiokawa (vendor), Co-Chair: Masayoshi Seki (vendor)

Conformity Assessment Technical Committee

Chair: Yasunari Shiokawa (vendor)

Promoting Committee

Co-Chair: Yutaka Ando (user), Co-Chair: Yasuo Okuda (user), Co-Chair: Koji Miura (user)

International Committee

Chair: Michio Kimura (user)

RFP Consultation Committee

Chair: Yasuo Okuda (user)

netPDI Committee

Chair: Michio Kimura (user)

(For the committees indicated below, the planning board and technical board need to be installed concomitantly)

Radiology Planning Committee

Co-Chair: Norinari Honda (user), Co-Chair: Yutaka Emoto (user)

Radiology Technical Committee

Chair: Yasuhiko Nishida (vendor)

Cardiology Planning Committee
Chair: Kazuya Takehana (user)

Cardiology Technical Committee
Co-Chair: Yoichi Echigo (vendor), Co-Chair: Shinichi Nakano (vendor)

Pathology and Cytology Committee
Chair: Akitoshi Suzuki (vendor)

Endoscopy Committee
Chair: Shinichi Omori (vendor)

Laboratory Committee
Chair: Naomi Ishii (vendor)

Radiation Oncology Planning Committee
Chair: Nobuhiro Tsukamoto (user)

Radiation Oncology Technical Committee
Chair: Masayoshi Seki (vendor)

ITI Planning Committee
Co-Chair: Yutaka Ando (user), Co-Chair: Minoru Hosoba (user)

ITI Technical Committee
Chair: Masayoshi Seki (vendor)

Ophthalmology Planning Committee
Chair: Kazumi Shinozaki (user)

Ophthalmology Technical Committee
Chair: Kohji Kondo (vendor)

PCD Committee
Co-Chair: Takehiko Koyama (vendor), Co-Chair: Hiroki Hayashi (vendor)

The general meeting of officers and the board of directors operates according to the articles of incorporation. The board of directors draws up the rules of the organization.

The board of directors generates committees according to the rules and appoints the chair. Committees other than the Steering Committee report to the Steering Committee; The latter is governed by the Board.

IHE Japan employs 3 secretariats other members including board members and committee chairs and members are all volunteers. However, expenses for meeting and transportation are supplied by IHE Japan.

Support and Interest by Stakeholder Groups

IHE International Member Organizations (see list at

http://www.ihe.net/governance/member_organizations.cfm) participating as members in the national/regional initiative:

Health IT and Consulting Companies

- Canon Medical Systems Corporation

Healthcare Provider Organization

- Tokyo Women's Medical University

List any other government agencies, professional societies or other national organizations with which your committee has established relationships.

IHE-Japan recruits new groups of members any time.

A group who like to be a member of IHE-Japan may apply as following.

Each document can be downloaded in IHE-J Web site.

- Read and accept the letter of intent for offering to IHE-J
- Fill the application form for entry
- Fill also the application form for attending committees.
- Send the forms to IHE-J address by envelope.

Healthcare Professional Associations

The following organizations are members of IHE Japan

- Japan Radiological Society (JRS)
- Japan Association for Medical Informatics (JAMI)
- Japanese Society of Radiological Technology (JSRT)
- Japanese Society for Therapeutic Radiology and Oncology (JASTRO)
- Japanese Ophthalmological Society (JOS)
- Japanese Society for Oral and Maxillofacial Radiology (JSOMR)
- The Japanese Circulation Society (JCS)
- Japanese Society of Digital Pathology (JSDP)

In addition to the above organizations, IHE Japan has 36 individual members.

Healthcare IT and Consulting Companies

IHE Japan has 79 member companies, of which the following list includes vendors affiliated with IHE international and their Japanese subsidiaries.

- Canon Medical Systems Corporation
- GE Healthcare Japan
- Elekta International
- Philips Electronics Japan, LTD.
- Topcon Medical System Inc.
- Varian Medical Systems K.K.

Government Agencies and Public-Private Partnerships

- The Ministry of Health, Labour and Welfare (the MHLW)

The MHLW conducted a project aimed at developing counter testing tools to ensure the interoperability of medical systems over 6 years until 2014, and IHE Japan has been entrusted

with the project. As a result of the project, Japanese version Gazelle had been developed as the tool to manage IHE Japan Connectathon. In 2012, the Gazelle was introduced and translated into Japanese and it be started using in Japan Connectathon.

The MHLW issued notifications on the specifications which should be recognized as the standards in the healthcare information domain. **“IHE Portable Data for Imaging (PDI) Integration Profile and its operational guidelines”** was selected as the standard in the notification. **“The technical specification for information exchanging infrastructure of regional healthcare network”** published by IHE-Japan was selected which contained IHE ITI Profiles (PIX, PIXV3, PDQ, PDQV3, XDS.b, XDS-I.b, XCA, XCA-I, CT, ATNA, XDR, XCPD). **“IHE Retrieve Form for Data Capture (RFD)”** and **“IHE Radiation Exposure Monitoring (REM)”** were also selected recently.

Standards Organizations

IHE Japan has no Standards Organizations as a member, but IHE Japan was related with following Japanese Standards Organizations.

- Health Information and Communication Standards Board (HELICS)
HELICS has 9 member organizations including IHE Japan. The board of HELICS selects standards which should be implemented and used in healthcare information systems in Japan, forms standards proposed by member and nonmember organizations, and, following deliberation, establishes guidelines. Meanwhile, the MHLW recommends the adoption of the MHLW standards for promotion of appropriate healthcare interoperability. The MHLW has selected HELICS as “an organization for building the consensus of relevant parties regarding standards” and has been promoting activities to approve and recommend the healthcare standards established with the consensus of those involved.
IHE Japan has previously proposed the PDI, ITI HIE profiles (PIX, PIXV3, PDQ, PDQV3, XDS.b, XDS-I.b, XCA, XCA-I, CT, ATNA, XDR, XCPD), RFD and REM described above jointly with other organizations.

Health Information Exchanges

- n/a

Healthcare Provider Organizations

- n/a

Healthcare Education and Research Organizations

- n/a

Trade Associations

The following organizations are members of IHE Japan.

- Japan Medical Imaging and Radiological Systems Industries Association (JIRA)
- Japanese Association of Healthcare Information Systems Industry (JAHIS)
- Japan Ophthalmic Instruments Association (JOIA)

Activities and Achievements in the Preceding 12 Months

- Testing events

IHE Japan Connectathon is held every year.

In 2021, it took place between Oct. 25 MON and 29 FRI.

23 vendors and 32 systems including 1 supportive participated the event under COVID pandemic situation continually. We opened hybrid (real + on-line) Connectathon with enough measurements against infection risks.

The profiles tested included:

* PDQm was the first FHIR profile testing in Japan. We used Gazelle only for uploaded contents like console logs, screen captures and JSON files. Monitors validated JSON fields using HL7 official validation module manually.

**Domains and profiles deleted by line were canceled in due to decline participants.

RAD (SWF.b, ARI, CPI, PDI, REM, ~~REM-NM, TCE, IOCM, EBIW*, XDS-I.b, XCA-I~~)
LAB (~~LAW, LBL, LDA, LPOCT, LTW(GIR), LTW-MB~~)
CARD (CATH, ECG, ECHO, ~~IVI, ED-GRAD, STRESS~~)
ENDO (EWF, ~~ERPQ~~, EIA)
PCD (~~ACM, DEC~~)
RO (~~MMRO, BRTO~~)
ITI (~~ATNA~~, CT, PAM, PDQ, PDQm*, PDQV3, PIXV3, XDS.b, XCA, ~~XCPD, PLT, SVS~~)

IHE-Japan has started to offer vendors Connectathon Seal since 2020 to merchandise their products and IHE activities in Japan. The Seal design is following (See below diagram). And the fee system of the seal depends on the class of IHE-J membership as below tables.

4 vendors purchased Connectathon 2020 Seal and we are offering vendors 2021 Seal.



Diagram: The image of Connectathon Seal

* A area: Vendor will put the profile (and option) name passing in the Connectathon.

* B area: Vendor need to put the QR code as web link to IHE Integration Statement of the product.

* Comment of the downward: This product is based on above IHE profiles. If you have any suspicious opinion for implementing product and cost, please let IHE-Japan to know it.

Table1: IHE-Japan Connectathon Seal fee (requested at Connectathon registration)

Unit of Seal purchase	S / A member	Non member
The first seal	JPY 30,000	JPY 50,000
Additional 1 Seal after the second one	JPY 10,000	JPY 20,000
Maximum fee (unlimited)	S: JPY 150,000 A: JPY 200,000	JPY 300,000

Table2: IHE-Japan Connectathon Seal fee (requested after Connectathon event)

Unit of Seal purchase	S / A member	Non member
The first seal	JPY 40,000	JPY 60,000
Additional 1 Seal after the second one	JPY 15,000	JPY 25,000
Maximum fee (unlimited)	S: JPY 160,000 A: JPY 220,000	JPY 330,000

- Demonstrations
No event.

- Education

Seminars

Over 2021 fiscal year, IHE Japan has held 6 seminars nationally and a total of about 900 participated. The events are as following.

Connectathon Vendor Workshop (online)
72nd IHE Seminar for Beginner (online)
JAMI Spring Conference Tutorial (in place & online)
IHE Experts Introduction Seminar (online)
2022 IHE Experts Certification Educational Seminar (online)
JAMI Annual Conference Tutorial (in place & online)

Books & e-Books

We are currently planning new e-Book as "Latest IHE and HIE Introduction 2021 – 2022".

IHE Experts Certification Program

IHE Japan has provided IHE Experts Certification Program as one of educational services for Japanese IHE users including not only vendor engineers, also medical providers since 2019. IHE Japan has expected to spread IHE more for HIE in Japan to implement more flexible HIE network on IHE profiles as standard protocols like NA and EU. IHE Experts Certification Program is to make new leaders of IHE user in Japan who may suggest or propose using IHE in their system implementation project.

In 2021, we had new 4 certified IHE Experts under COVID situation.

- Engagement with local health IT projects
No specific engagement has taken place.
- Deployment Projects based on IHE Profiles
[netPDI implementation in Hamamatsu regional area](#)

In Okazaki and Hamamatsu regional area, IHE Japan has consulted for regional hospitals to implement HIE connection using netPDI that is extended PDI profile using electric token instead of real media. In 2021, Kyusyu University Hospital introduced netPDI additionally.

Marketing activities

Instruction: Provide which marketing instruments are in use, such as web site, social media, videos, flyers, etc. and your experiences regarding their cost/benefit effectiveness.

Identify marketing gaps, target audiences for local health IT initiatives, areas of focus, etc. and share ideas for how IHE Int'l facilitate local marketing efforts, e.g. provide marketing kits, etc.

Notable Challenges

Proposal netPDI for ISO

IHE-J continue to propose netPDI which is based on PDI profile and uses storage services and secure digital token instead of CD media. IHE-J has provided implementing netPDI service to regional medical networks especially between core medical center and clinics around it. IHE-J is also proposing netPDI to ISO TC215 as a world standard for easily implementing medical information exchange.

Launch SS-MIX2 storage validation program

IHE-Japan is continually contributing for SS-MIX2 validation service provided by HL7 Japan. In 2021 we provided 1 validation for new facility, National Center for Geriatrics and Gerontology. We also had another re-validation for existing facility even under COVID situation that was Kyusyu Univ. hospital as the 3rd checking after updating their SS-MIX2 exchanging interface.

What is SS-MIX2 storage validation program?

SS-MIX2 storage is a solution as a part of MHLW government standard for implementing standardized medical information repository in Japan using just common technologies. Patient data is stored by several types of HL7 V2.5 files assorted by patient ID and data timestamp as folders/directories on general file management systems. HL7 Japan and IHE Japan has finally launched SS-MIX2 validation service since November 2019. It utilizes IHE Japan validation tools to check detailed specification of HL7 V2.5 files in SS-MIX Servers. We are expecting to keep interoperability among over 1,000 SS-MIX2 storages in Japan. The first trial service was for Hamamatsu Univ. hospital in September 2019, and we have provided the go-live-service to 4 facilities. IHE-Japan like to extend the service to Conformity Assessment service using IHE International Conformity Assessment testing tools in the future.

Planned Activities

IHE Japan are planning to propose the following profiles continually.

No planning profile currently.