



The ICSCoE Report is a public relations newsletter on ICSCoE's activities

“Japan-US-EU Industrial Control Systems Cybersecurity Week for the Indo-Pacific Region” for Fiscal Year 2023

Event Overviews

From October 9th through 13th, the Industrial Cyber Security Center of Excellence (ICSCoE) held the JP-US-EU Industrial Control Systems Cybersecurity Week for the Indo-Pacific Region for the fiscal year 2023 by collaborating with the Ministry of Economy, Trade and Industry, the governments of the United States and European Union. We hosted the face-to-face event for the first time in four years since 2019, and 35 practitioners from government agencies and industries from the Indo-Pacific region (ASEAN member countries, India, Bangladesh, Sri Lanka, Mongolia, and Taiwan) participated in this Cyber Week.



Hands-on Training

In this training, Dr. MITSUNAGA Takuho (Associate Professor, Faculty of Information Networking for Innovation And Design, Toyo University), an instructor of the Core Human Resource Development Program, and his team utilized the industrial simulated plants: They demonstrated the attack case of not appropriately control the water levels of cisterns to the participants. They also showed the participants the attack method when robot arms encounter a cyber-attack, called adversarial examples, which causes erroneous judgments of images and does not behave appropriately. The trainees could experience and learn countermeasures against cyber attacks.



Theme-specific Seminars

We invited Mr. YAGI Harunobu (Central Japan Railway Company), a Core Human Resource Development Program graduate (the fourth cohort), and Mr. FRIEDMAN Allan, Senior Advisor at the CISA*, to the seminar focusing on supply chain management. During the session, Mr. YAGI and Mr. Friedman answered the questions of the trainees from the Indo-Pacific region, and they conducted vigorous discussions on the topic.

*CISA: US Cybersecurity & Infrastructure Security Agency

Voices of Trainees

We have the following comments from the trainees: I could gain a comprehensive understanding of defense for the national critical infrastructures; I appreciate having an opportunity to share time with the people from the Indo-Pacific region who are committed to cybersecurity with like-minded.

Furthermore, we also received feedback from them: I could understand the connection between the unfamiliar OT field and the IT field where I had pursued my career so far; I became more aware of the whole digital world with a broader perspective and could prepare for cyber threats.

Special Lecture

We welcomed Mr. FRIEDMAN Allan from the CISA offering him to give his lecture on the approaches to promoting adopting SBOM* at enterprises in the United States, targeting our trainees and graduates of the Core Human Resource Development Program. Mr. FRIEDMAN explained the overviews and backgrounds of implementing SBOM, future trends, current challenges, and the latest developments, and he indicated the importance of standardization and mandatory when adopting SBOM.

*SBOM: Software Bill of Materials



What is Kanae-kai?



Trademark Registration No. 6714006

Kanae-kai (叶会) is the graduate community of the Core Human Resource Development Program formed for our graduates to support their further efforts: they can update their up-to-date insights and expand their networks developed throughout our program regardless of program years.

Kanae-kai is derived from one-character calligraphy performed by the chief priest for the Kumano Hongu Taisha Grand Shrine, the world's cultural heritage in 2008. Yatagarasu (three-legged crow), the protectorate god of Kumano Sanzan (the three Grand Shrines of Kumano), is the God of navigation and guidance. Thus, we named with the hope that God "fulfills" and "conduces" each graduate's wishes.

Since this network connects intelligence, techniques, and individuals, the logo mark of the Kanae-kai represents the images intertwined with security, technologies, and individuals with the lights from above. Trademark Registration No. 6714006

Overviews of Kanae-kai General Assembly

On November 2nd, 2023, the ICSCoE held the sixth general assembly of the Kanae-kai. This general assembly has been held once a year to provide our graduates with a place to gather, maintain horizontal connections among alumni and alumnae, and promote developing vertical networks regardless of program years.

In the morning session, we have convened the workshops based on exercises and seminars for a beneficial opportunity for our trainees to improve their knowledge and skills.

A hundred forty graduates participated in the sixth general assembly this year: this was the largest-ever number of participants.

Expert Lecture (Special Session)



During the expert lectures, we invited Mr. UEMURA Masahiro, Deputy Director General for Cybersecurity and Information Technology Management of the Ministry of Economy, Trade and Industry, Dr. KADOBAYASHI Youki, an instructor of the Core Human Resource Development Program, and Mr. YAGI Haruhobu, Secretary for graduates of the Kanae-kai (4th cohort) as a panelist and conducted the panel discussion.

Dr. MITSUNAGA Takuho, an instructor of our program, leading this expert session as a moderator, asked the following questions to the audience and derived the lively discussions: What is a considerable point to grasp under the Economic Security Promotion Act that requires ensuring the secured provision of services from critical infrastructures?, How should you confront Generative AI and its risks as a security personnel?

Regarding utilizing Generative AI, the experts introduced an in-house Large Language Model (LLM), risks of information exploitation when using generative AIs, the importance of determining the trends of attack methods, and efforts on developing rules and education. Thus, the panels and the audience had active opinion exchanges.

About Kanae-kai Activities

Mr. NAKAYAMA Akira, the Industrial Cyber Security Center of Excellence, IPA, introduced the Kanae-kai, "We have 349 members, including 48 people from the sixth cohort, and 65 individuals have been learning through the 7th term program.

Furthermore, Mr. NAKAYAMA informed the audience that the graduates actively performed by giving presentations at the JP-US-EU Industrial Control Systems Cybersecurity Week for the Indo-Pacific Region and the Locked Shields 2023 and newly conducted security awareness-raising campaigns collaborating with the Central Japan Economic Federation and the Kansai Economic Federation.



After concluding the Kanae-kai General Assembly, we interviewed the presenters to discuss their thoughts.

Interview



Mr. YAMAGUCHI Yoshiharu (5th cohort)
JFE ComService Co., Ltd.

The subcommittee raises a vision of instilling the importance of cybersecurity to the whole society and creating a world where security becomes a common practice. During this general assembly, we reported their activities on how to develop educational content for cybersecurity, school outreach programs targeted to elementary school students, and educational programs for parents. Through the Kanae-kai activities, I have absorbed the facilitation skills, and I apply these skills to my work. Moreover, the assembly benefits alumni and alumnae and the members from different program years to interact with each other and learn lessons.

We plan to expand our activities to school outreach programs for parents/elderly or local regions and keep improving the content.

Updates on Our Graduates

During the panel discussions the graduates from the first through sixth cohorts participated in, they exchanged their opinions based on four themes: successes and failures, applying skills absorbed through the ICSCoE, how people see you, and further efforts.

Mr. FURUSAWA Taiki, a 5th-cohort graduate, listed in-house incident response training as his successful experience, and he recalled that he could create scenarios of connecting IT and OT since he had learned from the ICSCoE. Mr. MIYAKE Shinya, a 3rd-cohort graduate, also introduced his story about how the enterprise evaluated his skills absorbed at the ICSCoE, how he got an offer to present at the ISAC conference held in Okinawa, and how to obtain the collaboration with the Transportation-ISAC, of which his supervisor was serving a board director. Mr. MURAKAMI Koji, a 4th-cohort graduate, expressed a further effort as his goal to commit to enhancing the security systems in Hokkaido by taking advantage of the connection with the Hokkaido Bureau of Economy, Trade and Industry.

Interview



Mr. HORI Yuki (6th cohort)
DMG Mori Co., Ltd.

I attended the general assembly as a 6th-cohort graduate for the first time, and I obtained an opportunity to present supply chain enhancement and my experience gained from observation tours to Asian countries. I keep in touch with the alumni and alumnae so far. However, this general assembly benefitted me in deepening interpersonal connections among other graduates beyond the program years and understanding the common issues facing supply chain security. I improved my presentation skills through the deliberations of our final projects and at the Interop Tokyo 2023, and my supervisors and colleagues acknowledge my growth. I have advanced in the managerial position; thus, I tend not to perform in the field works. However, since I heard the practical reports from other members at the general assembly, I reacknowledged the importance of field skills. Time has passed since I graduated from the sixth cohort activities. The instructors approached and talked to me, and I felt again that I had a place to return.



Mr. HANADA Takahiro (1st cohort)
National Institute of Advanced Industrial
Science and Technology

It was very fruitful for me to participate in the panel talk at the general assembly this time by taking advantage of technical training and my experience learning the backgrounds of domestic and international legal systems as a first-cohort trainee of the ICSCoE. Since I work for a public agency, I do not usually engage in specific industries. However, I could establish relationships with people from various business fields and exchange our thoughts through the Kanae-kai. At the general assembly, I presented my experiences pursuing my career in the security field, transferring to the Shikoku Region, and returning to the security field that could be a click for other graduates from different program years to develop their careers. Through the research of international legal systems, I had a precious moment to learn how to translate materials from the instructors. I have not been absent from the general assembly. I will actively participate in it and deepen my knowledge and skills.

Factory Tour

In December 2023, the trainees of the Core Human Resource Development Program (7th cohort) visited the plant manufacturing frozen and refrigerated showcases used for vendor machines and in stores and observed their actual manufacturing processes.



Ms. SAITO Yurina
Toinx Co., Ltd.

Participant Interview

The factory tour was educational since it was my first time observing the manufacturing processes there. After observing the overall manufacturing processes of vendor machines, I could deeply understand how the plants, which I usually used during the exercises, functioned as a whole.

Also, we had the precious opportunity to discuss the field security levels with the on-site personnel directly.

I will make a great effort to utilize the knowledge and skills earned from this factory tour for the final projects I will work on.

Forefront of Industrial Cybersecurity



On October 11th, 2023, we convened a talk session in Osaka for a place to acknowledge cybersecurity for managers and practitioners in the local areas. Approximately forty people, including the web audience, participated in this session.

During the talk session, the graduate from the Core Human Resource Development Program and guests who are active in the Kansai Area discussed the trends of the latest cyber incidents having occurred in this area. Consequently, the participants had a chance to feel cybersecurity more closely.

After this event, the participants had an opportunity to communicate directly with the presenters, and they could establish rewarding relationships.

Achievements of the Core Human Resource Development Program (Examples)

In July 2023, the seventh Core Human Resource Development Program began. We offer standard lectures and various activities; therefore, we proceed with our exercises for our trainees to consider security with a broader perspective.

■ July

- Opening ceremony

■ August

- Introduction of final projects by graduates
- Introduction of research deliverables by Cyber Technology Laboratory

■ September

- Exercises utilizing actual plants at the Control System Security Center
- Cyber attacks/ defense exercises using real machines by visiting network equipment vendors

■ October • November

- Lectures on Business Management
- Security response exercises assuming virtual enterprises (visualization of response status, budgetary requests to management)



○ Class Observation for Dispatching Companies

We invited dispatching companies of our trainees (mostly their direct superiors), and the trainees showed them their accomplishments through the practical incident response exercises up to that point.

○ Factory Tours

The trainees tour factories of various industries, such as chemistry, iron, and manufacturers, and learn about plant operation methods and security situations.

○ Overseas Deployment Exercises

We provide learning opportunities to the trainees to learn efforts and cases overseas by visiting academic institutions in France and government agencies and entrepreneurial ventures in the UK.

