

About ASEAN IVO

“ICT Virtual Organization of ASEAN Institutes and NICT” (ASEAN IVO) is a global alliance of institutes and universities in the ASEAN region and Japan focused on ICT research and development.

The mission of ASEAN IVO is to seek and identify strategic ICT research areas in the ASEAN region and support collaborative projects in them, promoting international alliance amongst universities and research institutes in the ASEAN region and Japan. Collaborative projects aim to address common challenges such as communication limitations in rural areas and disaster situations, language barriers, network security, energy, infrastructure, agriculture etc.

The idea for ASEAN IVO was conceived at the “International Roundtable on ICT R&D Collaboration in the ASEAN Region” held in 2013 by NICT. A proposal to establish the Organization was brought by NICT and approved at the second Round Table in 2015. ASEAN IVO began in 2015 with 23 members from 8 ASEAN countries plus Japan. Now membership includes all ASEAN countries, with 80 members as of April 2023 and rising.

Steering Committee

A Steering Committee is formed from ASEAN IVO member institutes and NICT, with one or two representatives for each ASEAN country. The Steering Committee is responsible for overseeing ASEAN IVO activities and deciding policy.

The Steering Committee: Selects proposals for collaborative projects, reviews ongoing projects and provides feedback, promotes ASEAN IVO with relevant ministries and organizations and identifies sources of support for ASEAN IVO activities.



Picture of the ASEAN IVO SC Meeting in Manila, the Philippines, March 2025

Membership

ASEAN IVO members can apply to make presentations on their research activities at the ASEAN IVO Forum, with the possibility of receiving support for travel expenses. Additionally, member universities and public research institutes from ASEAN countries are eligible to receive financial support for collaborative projects.

Membership is open to universities, institutes and companies located in the ASEAN region. Depending on the type of organization, the following conditions may apply:

1. Organizations applying for membership must be involved in research and development in the field of ICT.
2. Organizations from non-ICT sectors can be accepted as members, if their aim in joining is ICT development for their field.
3. Private companies are welcome to apply for membership if the company applying provides matching funds for ASEAN IVO joint projects. No financial support will be provided to the company.

For More Information

ASEAN IVO Secretariat:

Email: asean_ivo_sc_nict@ml.nict.go.jp

Homepage:

http://www.nict.go.jp/en/asean_ivo/



Website

Social media: X @ASEANIVO YouTube @aseanivo2266



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Research Collaboration

New collaborative projects are selected for support through an annual call for proposals. All projects are required to include participant institutions from at least two different ASEAN countries. Proposals from all technical fields are welcome and are evaluated on the potential benefit of output.

ASEAN IVO supports research collaboration by:

1. Developing common technologies in broad areas based on common considerations
2. Forming multinational collaborative projects for research, field trials, etc. to address common regional needs
3. Promoting collaborative research through researcher exchange
4. Sharing knowledge through international joint workshops and other academic events

ASEAN IVO Forum

The ASEAN IVO Forum is an annual event providing an opportunity for all ASEAN IVO members to exchange ideas, discuss R&D topics and coordinate projects. Each year, the ideas exchanged lead to new project teams forming in time for the following Call for Proposals. The Forum is hosted in a different ASEAN country each

Past Forums:

- 2024 November 6 - 7, Phnom Pehn, Cambodia
- 2023 November 15 - 16 Vientiane, Laos
- 2022 November 29 - 30, Bangkok, Thailand
- 2021 November 18, Online Video Conference
- 2020 November 25 - January 11, Online



Pictures from ASEAN IVO Forum 2024 in Phnom Pehn

Some ASEAN IVO Projects



IoT System for Water Reuse in Developing Cities (2021)

Leader: USM (MYS)

Members: USM (MYS), TDTU (VNM), NICT (JPN)

This project was to develop real-time analysis and monitoring of water quality to preserve the water reuse system and the safety of vulnerable citizens. Moreover, data was collected through IoT to improve water management in cities. The major aim of this project was to design and develop a system which can perform wastewater treatment, water quality analysis and monitoring, and critical water reuse data collection to improve household water use and conservation.



Agricultural IoT based on Edge Computing (2022)

Leader: PTIT (VNM)

Members: PTIT (VNM), VNU-UET(VNM), NICT (JPN), NECTEC(THA), UTM(MYS)

The project aims to develop an agricultural IoT framework using edge computing to address challenges in academic and practical aspects of agricultural systems. Research findings on edge computing performance, security, and advanced intelligent computing will be applied on farms across participating countries. The exchange of experiences and data sharing among research institutions will serve as a foundation for developing a common model for agricultural IoT applications in practice.



Research and development for precise positioning with Artificial Intelligence (AI) during ionospheric disturbances in low-latitude region in ASEAN (2023)

Leader: KMITL (THA)

Members: KMITL (THA), CMU (THA), KMUTT (THA) NUOL (LAO), VAST-IES (VNM), ITC (KHM), LQDTU (VNM), CADT (KHM), NICT (JPN)

Ionospheric irregularities like equatorial plasma bubbles (EPB) in ASEAN countries can disrupt precise positioning and navigation. Various sensors and data are used to detect irregularities, and forecasting and mitigation are crucial for society. As Solar cycle 25 approaches its maximum in 2024 or 2025, more data and warning capabilities are needed.



Cyber to Real World Integrated Testbed for Dam Safety Management and Water Governance System (2024)

Leader: NUOL (LAO)

Members: NUOL (LAO), NECTEC (THA), IDRI (KHM), UCSY (MMR), Mapua U (PHL), NICT (JPN)

Dams in ASEAN countries have been instrumental in addressing issues like poverty, drought, floods, and disease. However, dam failure risks remain due to climate change, ageing infrastructure, and varying expertise in dam safety management. The "Cyber to Real World Integrated Testbed for Dam Safety Management and Water Governance System in ASEAN Countries" aims to bridge the gap between digital simulations and real-world implementations, using advanced cyber-physical systems technologies to enhance dam safety protocols and water governance frameworks across ASEAN nations.