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 formed from the 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. Meetings are typically held twice a year.

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; Decides overall ASEAN IVO policy and administrative matters.

Picture of the ASEAN IVO SC Meeting in Singapore March 2023

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

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

ASEAN IVO Secretariat:
Email: asean_ivo_sc_nict@ml.nict.go.jp

Social media:
@ASEANIVO
@aseanivo2266

ASEAN IVO
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2023.04

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 year.

Past Forums:

2022	November 29 - 30, Bangkok, Thailand
2021	November 18, Online Video Conference
2020	November 25 - January 11, Online
2019	November 20-21, Manila, The Philippines
2018	November 27-28, Jakarta, Indonesia
2017	November 23-24, Bandar Seri Begawan, Brunei Darussalam
2016	November 24, Hanoi, Vietnam

Pictures from ASEAN IVO Forum 2022 in Bangkok

Some ASEAN IVO Projects

Prevention of 4 Disasters and Their Single Recovery Networks based on Internet-of-Things with Airborne Capability (PATRIOT-41R-Net) (2019)

Leader: Telkom U (IDN)

Members: Telkom U (IDN), JAIST (JPN), HUST(VNM), UTM (MYS), AIT (THA)

This project is highly motivated by the very high probability of natural disasters occurring in ASEAN countries with risk of between 51.71% and 74.36% based on a study by the United Nations carried out in 2006.

This PATRIOT-41R-Net project includes drones as flying relays, giving disaster victims wireless connections as well as helping to find them in locations where the safety risk is high for rescue teams. This project plans to ran an experiment in Padang City, Sumatera, Indonesia as the place experienced an earthquake and tsunami several years ago. With this project, people can have direct access to the level of danger and be more well prepared.

Content- Aware Disaster Mitigation using Mobile Edge Computing and Wireless Mesh Networks (2020)

Leader: UTAR (MYS)

Members: UTAR (MYS), MIMOS (MYS), NICT (JPN), UCSY (MMR), PIT (THA), JTTA (JPN)

Natural disasters occur frequently around the world. IoT sensors can detect such cataclysmic events, but these data are often analysed in the cloud. This project aims to develop a context aware disaster mitigation system (CAMS) that utilizes mobile edge computing (MEC) and a wireless mesh network powered by NerveNet. Armed with MEC, each IoT node executes AI detection tasks locally and submits metadata comprising the disaster content to a gateway. Using wireless mesh networking, data can be disseminated to emergency response units for rescue planning.

This recently finished project has produced numerous papers in various publications and for various conferences.

GNSS and Ionospheric Data Products for Disaster Prevention and Aviation in Magnetic Low- Latitude Regions (Phase II) (2021)

Leader: KMITL (THA)

Members: CMU (THA), GISTDA (THA), NUOL (LAO), CADT (KHM), NICT (JPN)

This project is a continuation of ASEAN IVO project 2019-4. The aim is to expand ionospheric observational infrastructure further in Cambodia and perform data analysis from multi-sensor sources including GNSS receivers, ionosonde, magnetometer and VHF radar station located at the magnetic equator and low-latitude regions. A new GNSS station is to be installed at National Institute of Posts, Telecoms & ICT at Phnom Penh, Cambodia to expand the network of GNSS stations under South East Asia Low-latitude IOnospheric Network (SEALION) project.

Importantly, this project aims to establish a GNSS and Space Weather Excellence Center at KMITL, Thailand, to provide the data to academic institutes and industries in Thailand and neighboring ASEAN countries.

P2EI-WEALTH System for Remote Indigenous Community and Disaster Recovery Operationsn (2022)

Leader: UKM (MYS)

Members: UKM (MYS), GTek Enterprise (PHL), MU (PHL)

In this project, a novel integrated IoT wrist-wearable with physiological and psychological biosensors are proposed with complementary activity, environmental, and position sensors to provide alerts and localization data relevant to the indigenous people and disaster recovery operations. The system will be empowered by edge intelligence and wireless LoRa-link to an in-vehicle or stationary data center. With this solution, the medic or emergency medical service (EMS) personnel will be able to know the real-time conditions and able to decide on any intervention.