

# Fostering a Culture of Inclusive and Fair Open Science Infrastructure in the Asia Pacific

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## Introduction

As the digital transformation proceeds, the pandemic increased Internet penetration, from 3.4 billion people in 2017 to 4.9 billion in 2022, which brought 63 percent of the world population to become Internet users (ITU 2022). The Internet has become vital in our daily lives, and the volume and way of people's communication have transformed significantly (Haider / Sundin 2019, Redshaw 2020, Rideout et al. 2022). Especially in the humanities domain, the Internet enables researchers to collaborate globally, mobilizes more stakeholders, and strengthens the connection between research and society (Führ / Bisset Alvarez 2021, McGillivray 2020, Milligan 2013).

## Foundation

On top of Internet use, there is a growing movement of Open Science (OS). In November 2021, the first universal framework on OS—the UNESCO Recommendation on Open Science (UNESCO 2021) was adopted by 193 countries. This “global standard-setting instrument” (Azoulay 2021) is considered to be a milestone for our research as well as society, however, the practices of OS “often overlooking important initiatives in the arts, humanities and social sciences” (Tennant et al. 2020: 13) where substantial challenges remain (Camkin et al. 2022, Knöchelmann 2019, Longley Arthur / Hearn 2021). Indeed, the OS movement encompasses various subjects and approaches (Ayris / Ignat 2018, Ramachandran et al. 2021), and while there are relevant studies within the intersection of humanities and OS (e.g., Chan 2019, de Jong et al. 2020, El Khatib et al. 2020, ESF 2011, Okune et al. 2018), this paper stands unique in building an Open Science Infrastructure (OSI) that can support not only necessary infrastructural services but also a community and knowledge-based framework.

## Project Overview

Since 2001, School on Internet Asia (SOI-Asia) Project<sup>1</sup>, a platform for inter-university educational programs among 29 higher education research institutions from 13 countries, has been fostering collaboration activities with the support of Research and Education Networks (RENs) (Okawa 2010) [Figure 1]. Although this project initially started by offering STEM-based activities, starting in 2021, the following sub-projects have been launched alongside the three pillars: a) Advanced Technology, b) Knowledge Base, and c) Community Building [Figure 2] to stimulate collaboration across borders and lead interdisciplinary initiatives in the fair and inclusive implementation of OSI in the humanities.

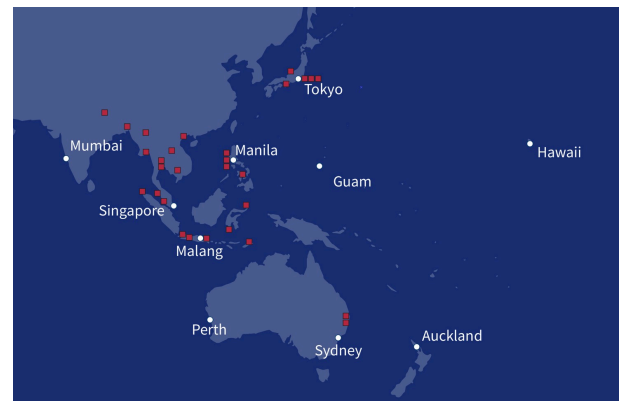


Figure 1 Geographic Map of the SOI-Asia Project Partner Institutions (Red Squares)

a) Advanced Technology: Satellite and Aero Research and Educational Network (SARENA-PAC) and Arterial Research and Educational Network (ARENA-PAC) Projects<sup>2</sup>

Despite the growth of Internet users, the inefficiencies in Internet connectivity remain a challenge in certain Asian countries (Dae Keun / Chang Yong 2022). This project focuses on creating an Internet infrastructure to foster stable international research and education network in the Asia Pacific. SARENA-PAC and ARENA-PAC are the backbone networks and are made up of an international submarine cable network constructed with the goal of expanding the Internet in the Asia Pacific.

b) Knowledge Base: Asia Pacific Internet Engineering (APIE) Program<sup>3</sup>

APIE Program aims to foster and support people to learn the necessary Internet engineering skills and how to improve cyberspace for society to manage the internet infrastructure. The program collaborates with lecturers from SOI Asia member institutions and is open to undergrad/grad students, despite their major being in another field [Figure 2].

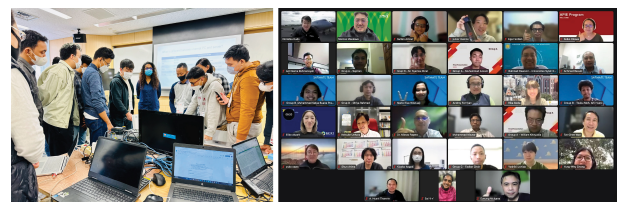


Figure 2 Photos from the APIE Program

c) Community Building: Evidence Based Approach (EBA) Project<sup>4</sup>

The EBA project aims to foster an Asia Pacific-wide collaborative community among universities to design an evidence-based resilient future society. The project offers a curriculum to foster human resources capable of identifying and tackling issues based on evidence and analysis. Currently, EBA offers a fieldwork program for under-grad/grad students where they learn and apply skills to address common issues in real-life situations and further promote cross-disciplinary scholarship while building a community of practice [Figure 3].



Figure 3 Photos from the EBA Project

## Summary

The aim of this presentation is to explore the practices and experiences we have learned from developing the OSI, and further shares our ongoing action plan for fostering a culture of inclusive and fair OS in the Asia Pacific. The described three-pillar model functions as a collaboration-led infrastructure landscape across disciplines and countries. In tackling the following questions, we believe this study will make a meaningful contribution to the realm of (digital) humanities and beyond.

- How we can broaden and deepen the adoption of open science methods amongst humanities scholars.
- How we can represent and increase the profile of humanities within the open science endeavor.
- How we can develop research environments and platforms around humanities practitioners.

## Notes

1. SOI-Asia Project Website: <https://www.soi.asia/>
2. ARENA-PAC Project Website: <https://www.arena-pac.net/>
3. APIE Program Website: <https://apie.soi.asia/>
4. EBA Project Website: <https://eba.soi.asia/>

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