

「Asia-Pacific Medical Network Project in
Kyushu University Hospital」 TEMDEC
(Telemedicine Development Center of Asia)
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3. Projects in Progress

3-1. APAN

APAN (the Asia Pacific Advanced Network) refers to both the organization representing its members, and to the backbone network that connects the research and education networks of its member countries/economies to each other and to other research networks around the world. APAN Ltd is the non-for-profit Association that is the legal entity created to undertake the activities on behalf of APAN members. APAN members are the entities representing research and education network interests in the countries/economies of Asia and Oceania. APAN coordinates activities related to network technologies, services, and applications among its members and with its peer international organizations. APAN is also a key driver in promoting and facilitating network-enabled research and education activities. These include research collaboration, knowledge discovery and sharing, tele-health and natural disaster mitigation.

APAN Medical Working Group is one of APAN WGs, and TEMDEC functions as its secretariat. No one can argue against the fact that there has been very rapid development in communication and information technology (CIT) in the world. Medical fields, however, have not necessarily caught up with the engineering advancement. Because image quality is a key in telemedicine and moving images are so helpful both in clinics and medical education, broadband and high-speed network is essential for medical telecommunication. Medicine is one of the most important subjects for human being, and it is quite natural to organize a medical working group in APAN. We focus more on applications and local settings with the support of network engineers. Our ultimate goal is to provide patients with better healthcare by exchanging our medical views and experiences using advanced CIT.

Objectives

- To organize a cooperating team of medical and engineering people.
- To provide the best quality transmission of various medical contents.
- To expand advanced telemedicine systems in Asia-Pacific regions.
- To keep the system improved constantly with developing technology.
- To have worldwide collaborations.
- To promote medical standardization ultimately to provide patients with better healthcare.



Figure 3-1 Asia-Pacific Backbone Topology Map

3-2. Asi@Connect Project

Asi@Connect provides a dedicated regional high capacity and high quality Internet network for research and education collaboration in the Asia region and leverage the e-infrastructure developed for public service projects. It connects Asian researchers to each other and with their counterparts in Europe via direct links to the pan-European GÉANT network.

Asi@Connect is the successor of the TEIN project and has developed as the leading Asian regional R&E network through its project phases. Asi@Connect aims for fulfilling a number of Sustainable Development Goals(SDGs) through improved access to education and research resources. The project focus is on assistance to Least Developed Countries(LDCs) whilst also providing products and services applications to network users and promoting research collaboration in line with the SDGs.

The main activities:

- Network Procurement and Management
- Capacity development of developing country NRENs
- Research and Education Network Design & Operations and associated capacity development
- Deployment of specialized network products, services and applications and associated capacity development
- Promoting Asia@Connect-enabled research and education collaboration for societal benefit
- Helping to bridge the digital divide in developing countries

Key facts – Asi@Connect Project

» Start date:	1 Sep 2016	» 24 Countries/economies
» Duration:	60 months	Afghanistan, Australia, Bangladesh, Bhutan, Cambodia, China,
» Total Budget:	€ 36.5 M	Chinese Taipei, Hong Kong, India, Indonesia, Japan, Korea, Laos,
» EC contribution:	€ 20.0 M	Malaysia, Mongolia, Myanmar, New Zealand, Nepal, Pakistan,
» NREN contribution:	€ 16.5 M	Philippines, Singapore, Sri Lanka, Thailand and Vietnam

Co-funded by the EU and participating Asian NRENs. The project receives funding from the European Unions under the grant contract ACA 2016/376-562 (Asi@Connect).

For more details please visit: <http://www.tein.asia/tein4/project/project.do>

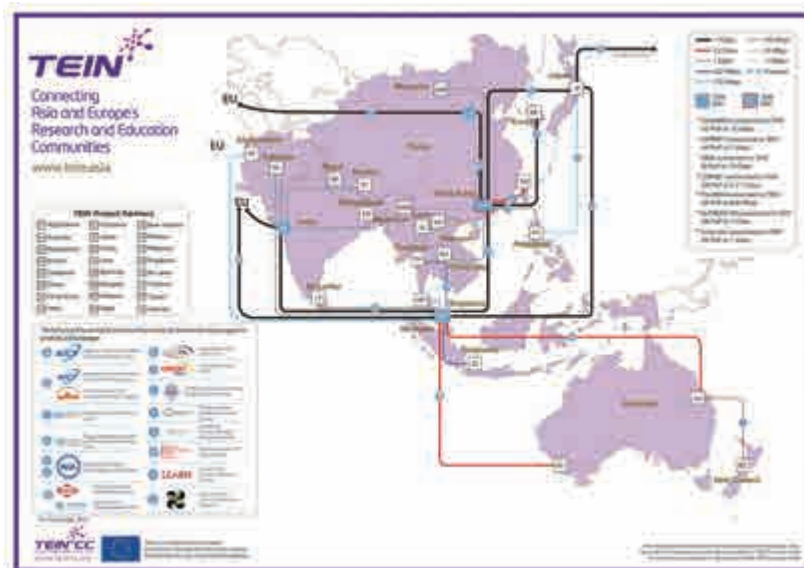


Figure 3-2 TEIN Topology Map

3-3. Japan Society for the Promotion of Science Grants-in-Aid for Scientific Research (A) : KAKENHI

3-3-1. Latin Telemedicine Project

Host: Japan Society for the Promotion of Science

Project category: Grants-in-Aid for Scientific Research (A)

Project title:

“Continuous remote medical education for the diagnosis of early gastric cancer in Latin America”

Duration: Apr 2016 - Mar 2021 (5 years)

Budget size: USD 60K by 5 years = USD300K

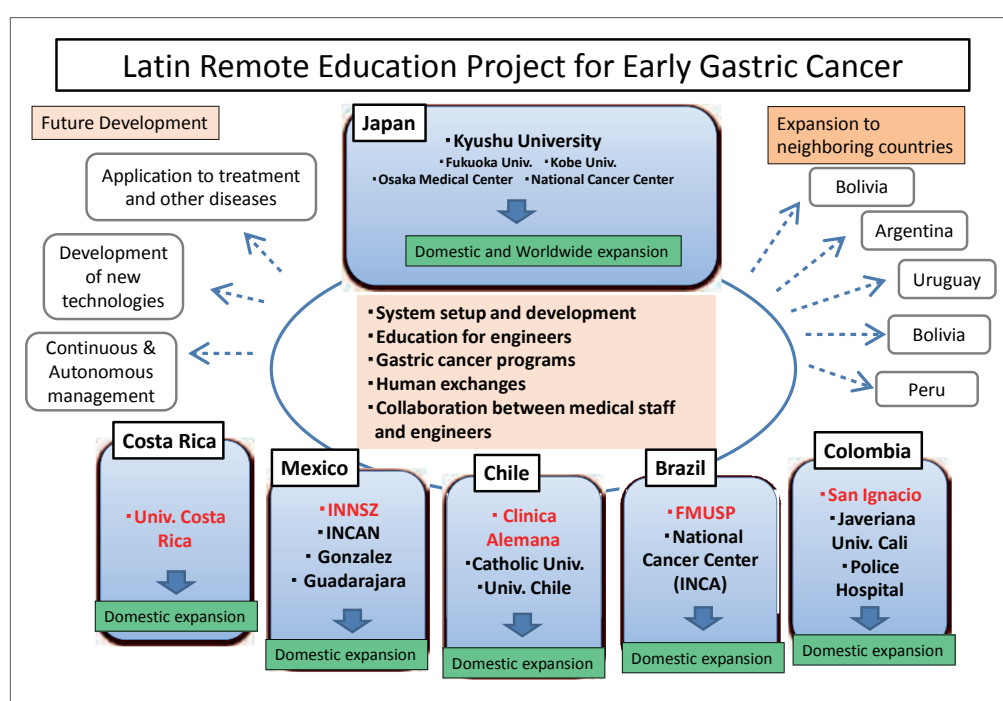


Figure 3-3 Kick-off meeting in May 2016

3-3-2. Construction of the online management system of international medical teleconference (2015-2017)

In recent years, international medical teleconference connecting medical institutions over the world such as teleconferences and live surgery came to be carried out as a means of international exchange of medical knowledge. However, access to these activities is not always possible, because of some communication problems with the countries of the medical personnel and technicians. This study aims to develop an online database system which supports institutions in the international medical network planning and in their participation in the international medical teleconference (Figure 3-4). Developing this system makes it possible to implement the international medical conference more smoothly. In the future, it would like to contribute active involvement of the participants, and autonomous and constructive operation of the international medical network.

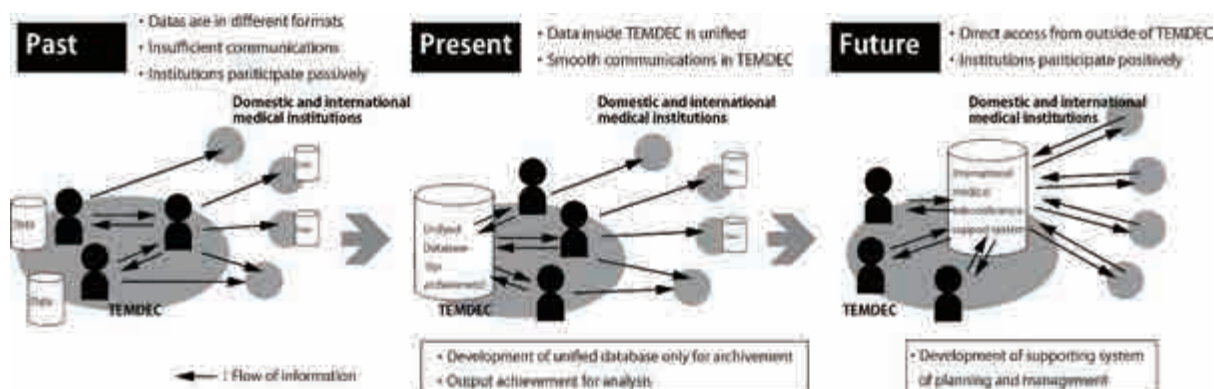


Figure 3-4 Overview of the study

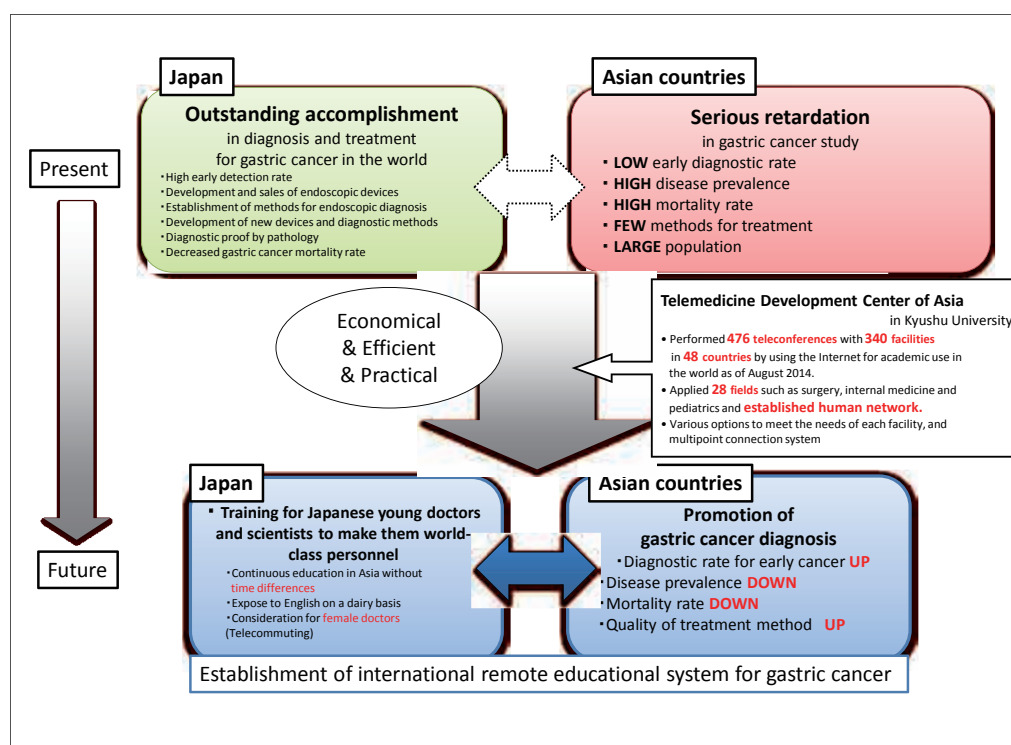
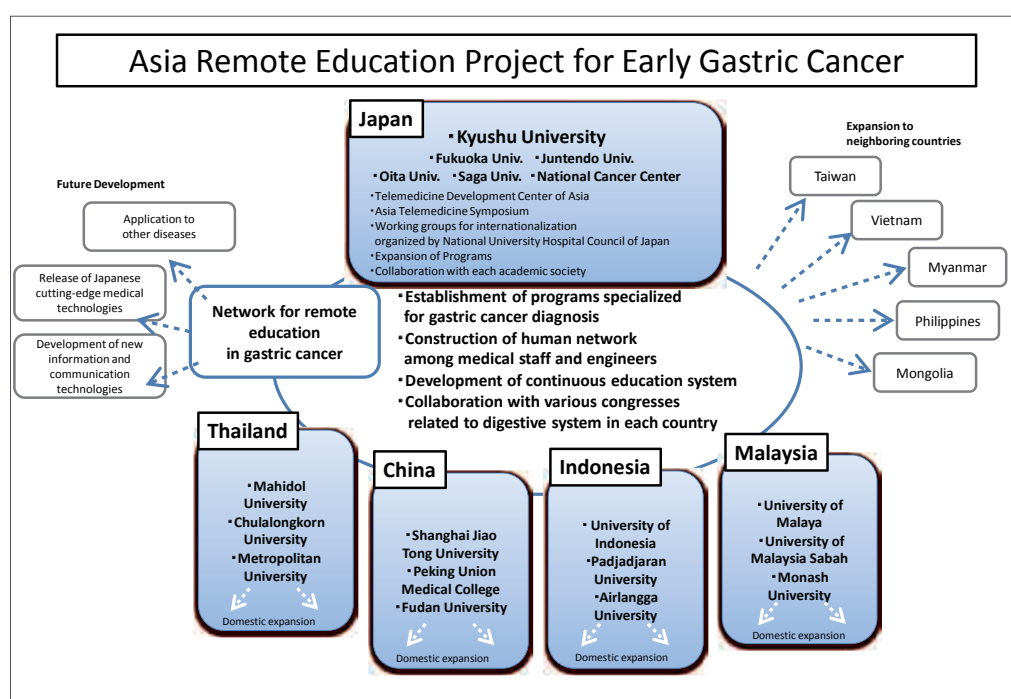
Based on the development of the system model, two systems were constructed: member management system and event program management system. The system was operated inside of TEMDEC, and it produced systematic updating of information and efficient management of the international medical teleconferences. In addition, it became possible to publicize upcoming event programs, which was difficult before. In the future, in order to ensure continuous collection and sharing of information, this system should be made open for other institutions to access. We must continue working for security improvements, the construction of ID rules and the implementation policies.



Figure 3-5 Event program management system

3-4. Japan Society for the Promotion of Science Core-to-Core Program - B. Asia-Africa Science Platforms

Host: Japan Society for the Promotion of Science
 Project category: JSPS Core-to-Core Program B. Asia-Africa Science Platforms
 Project title: “Continuous remote medical education for the diagnosis of early gastric cancer in Asia”
 Duration: Apr 2015 - Mar 2018 (3 years)
 Budget size: USD 55K by 3 years = USD165K



3-5. National University Hospital Council of Japan, Globalization Project

The National University Hospital Council of Japan was founded to integrate opinions and contribute to the progress and development of the study of medicine, dentistry, and health care services in Japan. In addition, the Council sponsors discussions on a variety of issues related to medical care, training, and research at national university hospitals, national university dental hospitals, and national university research institution hospitals, including deliberations on important related topics to deepen mutual understanding. Furthermore, the Council convenes a regular general meeting once a year (around June) and occasional general meetings as necessary.

Kyushu University Hospital is leading international remote medical education using the Internet in the Globalization section, Standing Committee of the National University Hospital Council of Japan.

◆ Recommendations for the Promotion of the Globalization of National University

Strengthen cooperation with overseas medical institutions through the development and utilization of information technology to establish a world leading medical network.



Figure 3-6 Screenshot of Globalization Project Team NUHC

Figure 3-7 Publishing a book for telemedicine