

eduroam: EASING KNOWLEDGE TRANSFER

TEIN, Asia-Pacific's dedicated high-capacity IP network, is helping researchers, scientists and academics take advantage of mobile broadband communications.

Mobile broadband is gradually becoming as important as fixed broadband, and in many countries smartphones have overtaken fixed desktops as the preferred method of getting online. Much of the growth is in the commercial and the consumer sectors, but not far behind is the demand for mobile internet access in the world of scientific research.

The needs of professionals working in these related fields are difficult to meet using public internet services. The work often demands greater security than can be provided on the web or on public wifi services; at the same time, high speeds and ultra-high stability are also essential.



eduroam is the answer

To meet this need, a world-wide roaming access service – eduroam – was designed and launched in Europe in 2003, providing access to research and education networks. It allows access between participating institutions – wherever they are in the world – without the need for site specific credentials, and, therefore, sparing participants the burden of administering access to guest networks and of ensuring the privacy and security of guest users' data.

eduroam has proved its value to the communities it serves, and there are now active networks in Africa, Asia-Pacific, Latin America, North America and Europe.

The Challenge :

To extend the benefits of the successful eduroam initiative to research and education users in seven Asia-Pacific countries with limited or no existing coverage.

The Solution :

The TEIN eduroam project was established in 2015, with six organisations participating to deliver the solution (see box for the full list of participants).

Procurement and installation of the basic infrastructure was carried out by the project, which also developed dedicated admin and monitoring tools for optimising the performance of each installation.

The National Research and Education Network in each of seven participating countries set up a National Roaming Operator (NRO) – responsible for organising and managing their local eduroam infrastructure.

The project also delivered local training, equipping the NROs with the skills to manage their infrastructure; the NROs, in turn, took responsibility for training IT staff at the client institutions, enabling them, among other things, to implement further hotspots.

Key Benefits :

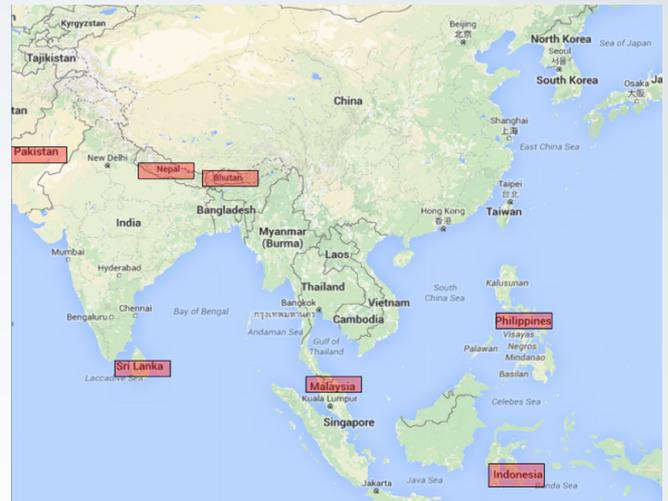
Asia-Pacific researchers, scientists and students can get online at any of eduroam's wireless hotspots, relieving host institutions of the burden of administering access to guest networks, and ensuring that users have no concerns either for their data or their privacy.

Each country has published its own eduroam website, providing valuable support and advice for users.

On basis of this success, TEIN sponsored an eduroam project for Asia-Pacific (2015 - 2016) and the facility has now been deployed in countries where there had been limited or no eduroam coverage. The TEIN eduroam project has taken the worldwide total of installed hotspots (for wireless access) to over 12,000.

Each of the seven participating countries has established an NRO (Network Roaming Operator) to install and operate the basic eduroam infrastructure. The NROs are also responsible for authenticating connections and extending eduroam capacity to more institutions.

The initial deployment was to three institutions in each country – and it is already clear that there is sufficient demand to increase this number significantly over coming years.



International roaming, international co-operation

The installation project was a model of international co-operation, with six partners working together to deliver the solution.

- **TEIN*CC**
the project sponsor
- **AARNet** (Australia Academic and Research Network)
responsible for overall project management
- **CNU (Chonnam National University – in Korea)** and **KISTI** (Korea Institute of Science and Technology Information)
developed the configuration of the servers that sit at the heart of eduroam networks
- **REANNZ** (Research and Education Advanced Network New Zealand Ltd)
developed the admin and monitoring tools
- **SingAREN** (Singapore Advanced Research and Education Network)
carried out the software testing

TEIN eduroam is available in

- Bhutan
Jigme Namgyel Engineering College, Paro College of Education, Sherubtse College
- Indonesia
Universities Indonesia, Universities Brawijaya, Surabaya Institute of Technology
- Malaysia
Universiti Tenaga Nasional, Universiti Sains Islam Malaysia, Universiti Tun Hussein Onn Malaysia
- Nepal
Prime College, IOE Pulchowk, Kathmandu Model Hospital, Kirtipur Model Hospital
- Pakistan
Bahria University Islamabad, Jinnah Sindh Medical College Karachi, IBA Sukkur
- Philippines
University of Philippines campuses - Quezon City, Manila, Los Banos.
- Sri Lanka
University of Peradeniya, University of Kelaniya, University of Moratuwa

TEIN Asia-Pacific's dedicated high-capacity IP network for research and education

TEIN – the Trans-Eurasia Information Network – sits at the core of the Asia-Pacific eduroam network, providing the dedicated, stable, high-capacity internet essential to the consistently high quality connectivity that researchers and scientists need.

TEIN does much more than provide seamless internet connectivity for eduroam, of course. The network connects scientists and researchers across the Asia-Pacific region and, through direct connectivity with GÉANT, the pan-European network, to the entire global research and academic community.

Co-founded by the EC and Asian partners, and managed by TEIN*CC (The TEIN Co-operation Center), the network began operating in 2000 and is now in its fourth phase – TEIN4.

It provides

- dedicated high capacity for the research, scientific, education, arts and government communities across Asia-Pacific
- a gateway for global collaboration for more than 30 million users in the region



For more information

- TEIN: www.tein.asia / www.teincc.org
- AARNET: www.aarnet.edu.au