

fast facts

Project: Pacific Islands Schools, Connectivity, Education, and Solar Project (PISCES)

Lead Organization: iSolutions

Country: Federated States of Micronesia

Budget: 27,320.00 AUD



situation

Like other small island nations, Micronesia and other Pacific Island nations suffer from financial, geographical, infrastructural, and power constraints that have largely prohibited development of reliable communications networks and local ICT-related activity. Due to their remote location, island nations stand to gain a great deal from the benefits associated with telecommunications and related ICT advances that make distance obsolete. However, the Federated States of Micronesia are currently unable to harness the socioeconomic and educational benefits of ICTs, and will remain so until reliable power sources and local capacity building needs are met.

solution

The PISCES Project is bringing solar powered internet connectivity and related computing technology to remotely located schools in Chuuk, Federated States of Micronesia (FSM). Bringing high speed, low cost internet connectivity to the Pacific islands has been the focus of attempts to bridge the digital divide in this region, yet much work remains to be done in this geographic area — the challenges are great. At present, remotely-located schools across the Pacific lack two key conditions necessary for realizing technology-in-the-schools project success: electricity and internet connectivity. To help advance these schools and provide new educational opportunities, the PISCES Project has initiated a multi-partnered endeavor comprising training, local capacity-building, deploying solar-powered computer labs and establishing internet connectivity that will demonstrate the feasibility of an affordable, repeatable, and sustainable solution for connecting schools on remote islands both regionally and globally.

This project builds upon the recent success of a single pilot installation of this technology at Udot School in Chuuk Lagoon, and the ISIF grant has allowed the project to expand. The original project plan was to establish an internet connection and place a localized server loaded with educational and technical training content at several island schools. However, upon testing the speed of the long-distance Wi-Fi link at Udot Island, which took place during the technical training enabled by this ISIF grant, it became apparent that we could build an extremely high-speed intranet, linking the island schools to a centralized server on the main island, while also supporting better inter-island communication, even at the level of video conferencing. This discovery prompted us to pivot the focus to include an emphasis on developing the intranet for educational and communication purposes. The project team wishes to increase skills related to the development, deployment, and maintenance of this newly-established intranet. The inter-island communications capabilities will be changed from current 2G mobile phone capabilities to video-level quality of telephony, making trainings and co-located educational experiences possible.

Expanding the project to multiple participant schools has not only proven the concept to be feasible, it has also allowed for the continuation of local training and capacity-building. Our longer-term goal is that this project will continue to scale across Chuuk State. This grant has allowed us to carry out five additional site surveys and to lay the groundwork for three additional deployments at currently un-connected schools in the Chuuk lagoon. The partners involved in this project include Inveneo, Illinois Institute of

Technology, FSM Telecom and the Chuuk Department of Education. Additionally, Peace Corps volunteers have joined in the project efforts, as they are already familiar with technology, and are enthusiastic about training the teachers with whom they are partnered.

Intended primary beneficiaries of the PISCES project include the teachers, students, and family members at the rural island pilot installation schools in Chuuk, who will be able to utilize internet- and ICT-related technology in the classroom to support and enhance the educational experience. However, the benefit of local and regional capacity building and technical training has increased both ICT awareness and economic opportunities for stakeholders. The iSolutions staff and Telecom FSM staff were trained on Android-based survey instruments and Wi-Fi technologies. Teachers at the schools have been trained in computer and digital literacy, and are now able to supervise students' use of ICT. This is significant as most teachers had not used technology prior to this time, and were hesitant to initially adopt technologies in the classroom. This was helped by the integration of Peace Corps volunteers, who received training on the pre-packaged solar kit that the PISCES program provided for charging the computer labs, and who in turn trained teachers on power management and the basic functionality of the solar charging system.

This project has generated a great deal of local and international interest. The Rotary Club in Chuuk, which is affiliated with a Rotary effort in Tokyo, has expressed interest in connecting an outer island of Tol, and funding for this project is likely. The PISCES team would be able to provide expertise in establishing the long-distance Wi-Fi links to connect the Tol site with the larger emerging network. The FSM Petroleum Company has expressed an interest in potential future funding for the project. The Mortlocks Development Authority (a governmental organization) has also expressed interest in becoming part of the project in the future.

broader impact

The PISCES project is bringing ICT to remote and off-grid schools in Chuuk, closing what has been a widening digital divide. The schools that will eventually be connected to the intranet that PISCES is providing will have access to an entire server full of educational material, much of which has been localized for Micronesia. The number of children who will have access to ICT and will therefore be able to build their ICT skills is considerable. The intranet will also make ICT training available on-site at many of these locations, reducing expensive, time-consuming, and weather-dependent boat travel. Thus, it will be possible for teachers to also attend Department of Education in-service trainings and other national events that have been out of reach. Additionally, jobs have been created as part of this project, which should increase as ICT becomes more prevalent across Chuuk. The major immediate impact this project has had, to date, is the doubling of staff size at iSolutions, which has grown from three full time employees, to six full time employees and two additional part-time employees.

contributions

Demo: PISCES Educational Content Server (ICTD 2013)

project contact

Minoru TR Mori

Email Address: trmori@isolutionsmicronesia.fm

iSolutions Micronesia

www.facebook.com/iSolutions691



Udot School – antennae rising

ISIF Asia Secretariat

Asia Pacific Network Information Centre (APNIC)

6 Cordelia Street, South Brisbane, QLD, 4101 Australia | PO Box 3646

Tel: +61 7 3858 3100 | Fax: +61 7 3858 3199

<http://www.apnic.net>