

Case study

Rakuno Gakuen University

Japanese University's conservation efforts in Malaysia supported by durable, high-performing HP technology



Industry

Geospatial, Higher Education

Objective

Support University's in-field geospatial research to protect Malaysian biodiversity

Approach

Deploy HP mobile workstations, Z Workstations and large-format printers

IT matters

- Install HP Z600 Workstations for high-resolution computing of high volumes of data
- Deploy HP EliteBook 8470w Mobile Workstations for durable, high-performance mobile computing
- Utilize HP Designjet large-format printers to produce high-resolution images and maps

Business matters

- Reliably process large amounts of data in harsh conditions
- Support intensive geospatial software to enable valuable research

HP recommends Windows.



“We use HP Z Workstations for remote sensing research, an application that requires high-resolution computing of high volumes of data. HP technology is a trusted asset for high performance in our research efforts.”

– Masami Kaneko, head of the Agricultural and Environmental Intelligence Service Center, Chair of the Environment Systems Faculty, and Professor in the Department of Environment and Symbiotic Science, Rakuno Gakuen University



Founded as a dairy school in 1933, Rakuno Gakuen University achieved university status in 1960 with the establishment of its Department of Dairy Science. The university has built a reputation for education and research in its College of Agriculture, Food and Environment Sciences and the School of Veterinary Medicine. Located in Ebetsu, near Hokkaido's capital of Sapporo, the campus adjoins Nopporo Shinrin Kōen Prefectural Natural Park. The combination of big city and open land reflects its culture and academic focus. The University's Agricultural and Environmental Intelligence Service Center relies on HP technology for its research work.

HP recommends Windows.



Geographic Information Systems (GIS) are used by the University's Agricultural and Environmental Intelligence Service Center to research natural environments, such as tracking deer activity patterns by attaching GPS transmitters to their necks and predicting seabird distributions to create maps for analyzing the effects of oil contamination and other disasters. The latter won an ESRI Special Achievement in GIS (SAG) Award in July 2009.

Another such effort is the University's work in conserving Malaysia's biodiversity, 'Nahiyaborneo Project' (<https://www.facebook.com/nahiyaborneo>)—an area where HP technology is playing a critical role. Leading this initiative is Masami Kaneko, Head of the Agricultural and Environmental Intelligence Service Center, Chair of the Faculty of Environment Systems, and Professor in the Department of Environment and Symbiotic Science. Kaneko's specialty is analysis using geospatial technology. For instance, an attempt to regenerate a logged area by replanting first requires an understanding of what kinds of trees were there originally. Without appropriate planting based on analysis of such data as old satellite photographs, the whole activity risks becoming a waste of time and effort.

Kaneko says, "Soil surveys and planting surveys are among the many resource surveys required. We work with KOPEL, a local tourism cooperative, which organizes local villagers as well as international tourists to replenish their rainforest – but without a comprehensive map. Village leaders must learn GIS technology to better understand and map their territory. Such maps are highly persuasive tools for showing tourists on tree planting tours why we

go to particular locations, why we are planting particular types of trees, and what the results will look like."

Up to any challenge, in any environment

Sabah—one of the 13 member states of Malaysia—and neighboring areas are experiencing heated development of plantations growing oil palms. These oil palm plantations require a large-scale monoculture, which allow wholesale stripping of the land, leaving wildlife with no place to live. The result is a serious impact on precious wildlife: orangutans are being deprived of their habitats and Asian elephants' migratory paths have been disrupted. Kaneko is committed to providing research and education to ameliorate these effects. HP technology is a trusted asset in his efforts.

Rakuno Gakuen uses HP Z600 Workstations, a desktop supporting twin CPUs, for its remote sensing research, an application that requires high-resolution computing of high volumes of data. When mobility and high-performance are needed, the University deploys HP mobile workstations.

Sabah lies in the tropics, so temperatures and humidity levels are high. "Ordinary computers soon break," explains Kaneko. HP EliteBook 8470w Mobile Workstations were selected to stand up to the harsh conditions, because it clears not only stringent tests by Hewlett-Packard, but also the US MIL-STD-810G military standards testing for durability.* The EliteBook has a strong reputation for toughness.

HP recommends Windows.

“We deployed them only a short time ago, but KOPEL staff using them in the field say that they are standing up well,” says Kaneko. “Because of the varying environmental conditions, solid performance is required, even as the staff shifts their base of operation around.”

“PCs performing this work often display low memory messages, slow down or freeze but with the HP Z Workstation it is very fast and displays data smoothly and accurately.”

— Kota Takahashi, Faculty of Environment System, Rakuno Gakuen University, Ebetsu, Japan. Dept. of Biosphere and Environmental Science

The HP EliteBook 8470w Mobile Workstation is the ideal machine for running geospatial software in the field. Features include an Intel® Core™ i7 processor, support for up to 16 GB of memory, and, from AMD Japan, a high-performance AMD FirePro™ M2000 graphics card for notebooks. Out in the field, this workstation smoothly runs GIS and other operations. It offers the computing power to create the high-definition analytic images offered by the primary software application, ArcGIS for Desktop. Adding to its appeal is the way it packs a high-definition (1,600×900)

display into a 14-inch diagonal screen for clearly displaying maps and other high-resolution data. “I’ve seen it myself in the field. There are no problems displaying images,” says Kaneko.

High-performance HP Designjet printers are also essential to the project because geographic information systems deal with high-resolution images. No matter how powerful the workstation, its display limits the amount of data that can be shown at one time. The number of viewers is also limited. “Digital data runs away, but paper data sticks around,” explains Kaneko, who has used large-format printers by HP for many years. He first saw HP large-format printers at an event in San Diego, California twenty years ago. He says, “My colleagues had recommended HP products as robust and providing the best results. After seeing them in person, I purchased one when I got back to Japan.” Since then, he has bought four more as the printers evolved through subsequent generations.

When the project ends, the villagers will need an easy-to-use computer to continue their own activities. An HP Elitebook 8470w Mobile Workstation running geospatial applications will meet those needs.

Learn more at
hp.com/go/gis
HP Workstation Geospatial Solutions

HP and Rakuno Gakuen University Video

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4AA5-2972ENW, May 2014

