

July 5, 2013

For Immediate Release

Sumitomo Forestry Co., Ltd.

Sumitomo Forestry Uses IT to Revitalize Forestry in Shimokawa, Hokkaido

—Support sustainable Forest Management by Obtaining High-precision Forest Resource Image Data via Aerial Surveys and by Using a Computer System—

Sumitomo Forestry Co., Ltd. (President and Representative Director: Akira Ichikawa; Head Office: Chiyoda-ku, Tokyo) announced today that it has been selected to handle the forestry system reform project being undertaken by the town of Shimokawa in the Kamikawa district of Hokkaido. The company received a contract to handle the development of a quantitative analysis system for forestry resources and to consult on operations. In this manner, Sumitomo Forestry is forging ahead with creating a platform that will play a role in vitalizing regional forestry through sustainable forest management. The full-fledged operation of the system is launched from July 2013.

The system utilizes advanced aerial survey technology, which combines aerial photographs with laser surveying¹. The goal is to obtain high-precision forest resource image data (tree species, height, tree population, density, etc.), and then analyze and utilize this data to accurately grasp the volume of forest resources for suitable forest management. In addition, the introduction of a network system will allow privately-owned and state-owned forests within the target region to share forest resource image data. The system is expected to contribute to the planning and implementation of highly effective plans for logging and for constructing forest roads.

1. Laser surveying: A laser scanner attached to an airplane emits a laser beam which reflects off the earth's surface. The time for the laser to travel back indicates distance with the earth. A Global Positioning System (GPS)/Inertial Measurement Unit (IMU) (a measuring system for position and posture) is used to gain the aircraft's position, enabling the precision measures of elevation and forests. (excerpt from the Geospatial Information Authority of Japan's homepage)

From April 2012, aerial surveying was used to grasp forest resource information and for system development for the joint forest operations area (roughly 25,000 hectares including the joint forest operations area in the Shimokawa district), a private-sector and government collaboration of privately-owned and state-owned forests.

Sumitomo Forestry owns around 43,300 hectares of forest in Japan. The company proposed to use the knowhow it nurtured from managing these company-owned forests over many years to build the system. In particular, the company utilized the technologies it cultivated in developing its own GIS Forest Management Data Map System² to build the forest resource quantitative analysis system. In this project, Sumitomo Forestry pinpointed practical issues, drew up project plans, and designed the database and system. Hokkai Aerosurvey Corporation (Sapporo City, Hokkaido) handled the aerial survey, Photec Co., Ltd. (Sapporo City, Hokkaido) was in charge of data analysis, and NEC Corporation (Minato-ku, Tokyo) handled system development.

Sumitomo Forestry will provide the town of Shimokawa with system support. The company also plans to contribute to the development of Japan's forestry industry, using the technologies and knowhow nurtured in this project, such as aerial survey, data analysis, system development, and operation, in order to make proposals to municipalities nationwide that aim to vitalize regional forestry through sustainable forest management and effective timber production.

2. GIS (geographic information system) Forest Management Data Map System

The in-house developed system is effective in managing company-owned forests by integrating numeric data and mapping data, such as tree species, age, height, density, and management history.

■ Events Leading Up to Development

- In general, forest resource information, such as species, height, and growth conditions, for privately-owned forests is managed by prefectures and for state-owned forests is managed using the forest registration, which is prepared by the government. Improving the accuracy of this data is vital, especially for sustainable forest management. In the joint forest operations area organized forest resource information is necessary as it will serve as the basis for joint management.
- Shimokawa, which is designated as an environmental “FutureCity” and forest industry Comprehensive Special Zone in accordance with the government’s new growth strategies, aims to become the model for a “future forest city,” by building a comprehensive forestry industry, at the center of which is urban development based on the revitalization of the forestry and forest products industry. Sumitomo Forestry was selected for its planning and technological strength, in the bidding held as a part of the forestry industry system renovation project.

■ Overview and Features

- Through advanced aerial surveying technology, which combines aerial photographs and laser surveying devices, it is possible to obtain, with high precision, usable data on the current status of the forest.
- In addition to the forest registration which was used thus far, by building a database for newly segmented forest areas (a section of forest that can be classified separately from the surrounding forest with virtually the same type of tree species, age, and growth), detailed forest information can be grasped and put to use.
- By understanding tree height and population, forest growth can be simulated and a program for practical forest management can be used to manage tasks, such as harvest volume forecasts.
- Results of tree thinning and afforestation can be reflected in real time to update data for use.

■ Goals and Benefits of System Introduction

- The goal is for the three organizations in charge of forest management—the Shimokawa Town Office, the Shimokawa forest owner’s cooperative, and the Northern Kamikawa forest management office—to utilize a forest database via a shared network, and effectively use this information for forest maintenance plans and forest road planning.
- By using highly precise forest resource image data it is possible to alleviate the time and effort of on-site inspections and field surveys.