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Topcon Laser Scanner captures critical data for nomination for World Heritage Site

Daiken Sokuryo Engineer Company, headquartered in Kitakyushu-city, Japan, provides surveying, consulting and design services in Kyushu-island and its neighboring region. In May 2010, the company utilized the Topcon GLS-1000 laser scanner for capturing the 3D as-built data of Kintai Bridge in Iwakuni-city, one of the important historic properties in Japan. Kintai Bridge was initially built in 1673 as a new gateway to the Iwakuni Castle across the Nishiki River. The five sequential wooden arch bridge, the oldest of its type in Japan, has total length of 193.3m (634ft.) with six abutments, four of which are set in 35.1m (115ft.) interspaces - the longest span in the world among existing wooden bridges*. In 1922 Japanese government





Takashi Seike

Site Supervisor

Toshihiko Kabashima



designated this historic property one of the three landmark bridges across the nation. Recently Iwakuni-city organized a steering committee to promote the Kintai Bridge so that it may be inscribed on the UNESCO World Heritage Sites. Toshihiko Kabashima, director of Daiken Sokuryo Engineer, said, "The committee was planning to create the 3D computer graphics so the details of the entire bridge can be watched from all directions on a computer screen. The laser scanner's 3D point clouds and picture images are the ideal data for this project." Takashi Seike, site supervisor of the company, said, "We took scans of the entire bridge from 22 different locations in two days. We started at five o'clock in the morning and ended at nine before

people showed up. It took only eight hours in total. This speed could have never been achieved before we introduced the laser scanning technology."

AT WORK

"Scanning was made typically in 1cm pitch at 30m distance," Kabashima said. "The committee highly appreciated the point cloud data we presented due to the density and cleanness that exceeded their expectations." He said, "TV, newspapers and other media covered how the laser scanning was performed. I found the people in Iwakuni-city had very keen interest in this world heritage project."

The 3D computer graphics of the Kintai Bridge is expected to be published in the near future.

* Except for those built with present construction technology.

Director

