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## Robotic-based Machine Control System Maximizes Efficiency and Quality in Land Preparation Applications

In June 2008, Godai-Kogyo construction company, located in Nagano, Japan, introduced the LPS-900 machine control system for the land preparation of approximately 4,100 square meters for a new nursery school that included swimming pool and sports ground. The LPS-900, employing a special edition of GPT-9000A robotic total station, is a grade control system for use with dozers and graders.

The site was designed to have grades of 0.1 percent to 5 percent that vary across the site.

The LPS-900 was fully operated for precise slope works in every stage from foundation to roadbed to finishing.

Yoshinori Kobayashi, president of Godai-Kogyo, said, "I was looking for a challenging task that brought out the full potential of this system, and that was the first one." At this site, the LPS-900 reduced the number of stakes and strings to one third of conventional method. "This system can virtually eliminates the need for stakes. However,



we set them on the reference points just to submit the report to the city government who ordered this job. Almost all the stakes can be eliminated when the ordering and reporting systems would be revised considering the advancement of construction and surveying technologies." Godai-Kogyo was one of the primary users of machine control systems in their local region. Kobayashi continued, "We did not only prove enhancement of job efficiency, but also achieved

higher construction accuracy than that of conventional method. Naturally I expect to receive more orders for the similar job from now on."

The LPS-900 can be operated even in narrow spaces where GNSS systems are not suitable due to the limited sky visibility, providing better usability in small to medium size construction projects.

ROBOTIC-BASED MACHINE CONTROL SYSTEM LPS-900