AT WORK

TOPCON

Sunago-gumi Corporation

Topcon Machine Control Systems Dramatically Improved Safety, Quality and Productivity

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Kazuo Kumagai
Executive Director

Takahiro Tanaka
Site Manager

Sunago-gumi Corporation

Sunago-gumi Corporation, a construction and coal mining company based in Hokkaido, Japan, recently introduced Topcon machine control (MC) systems for the road improvement project of the Hokkaido Central Expressway. The terms and conditions stipulated by the MLIT*1 for this project included use of the ICT Aided Construction*2 method.

Kazuo Kumagai, executive director of Sunago-gumi, said, "We initially expected this new technology would motivate our employees and give an ideal opportunity to improve their expertise rather than immediate return of investment. We participated in a technical seminar for the ICT-aided construction hosted by the Iwasaki Company Limited, a Topcon dealer in our area, where we got a clear idea that this technology had huge potential to improve safety, quality and productivity in a dramatic manner. That led us to introduce the Topcon MC systems."

Topcon's 3D-MC GNSS for excavators, MillimeterGPS for dozers and total station based construction management system were used for this project. Kumagai said, "Our primary interest was to what extent the MC systems increased productivity. Therefore we frequently checked the schedule chart and noticed considerable improvement in work efficiency even for the first time we used the MC system."

Takahiro Tanaka, site manager of the company, said, "Since the Topcon MC eliminated the need for a large portion of stakes and strings, we were able to reduce the survey crew from four to two. In some area, we could work without any strings that made the process much simpler and faster."

Topcon MC systems share all information such as design data, past work records and the latest as-built survey data. This feature greatly facilitates process management and shortens the work period. Tanaka said, "Excavation speed for slope

works became twice as fast as the previous methods. Even a novice operator can complete in the same speed with the same quality as experts do. By incorporating MC systems, we have increased overall productivity by at least 20 percent."

The synergetic effect of utilizing new hybrid excavators and MC systems has reduced fuel consumption and CO_2 emission. The remarkable achievements of Sunago-gumi with Topcon MC systems have aroused keen interest of their peers and keeps them busy for receiving visitors from all over the country.

*1 MLIT: The Ministry of Land, Infrastructure, Transport and Tourism
*2 ICT Aided Construction: Construction methods that make use of Information and Communication Technologies (ICT) to increase work efficiency and quality. Machine control system is one of the representative examples.