

## Technical Award

### Skill Transfer Using Digital Technology for Reliable Concrete Casting in Dam Construction



**Kagawa Prefecture Office, Sediment Control Division**

**Taisei Corporation, Tobishima Corporation, Murakami Gumi Joint Venture**

The Kabagawa Dam, located in Shioe-cho, Takamatsu City, Kagawa Prefecture, is a multi-purpose gravity concrete dam with a volume of 440,000 m<sup>3</sup>. It has been constructed to mitigate the enormous damage to the lives of citizens and economic activities caused by frequent floods and water shortages in the basin of the Kato River (designated a category B river under Japanese law). In constructing the dam in the face of falling dam engineer numbers (resulting from the retirement of baby boomers), it was essential to ensure that the technological skills of the past were passed on to the engineers involved while improving productivity and ensuring quality. Traditionally, young engineers would continue learning for a long period on-site while assisting experienced engineers, but with fewer skilled engineers available, such opportunities have been reduced.

At the dam construction site, the techniques of skilled engineers were visualized and digitized, and the resulting digital material was utilized to pass the techniques of concrete casting on to the on-site engineers. This is a fundamental change from conventional construction management, which generally involves "observing," "experiencing," and "learning" on site. Instead, in this case, techniques were passed on to young engineers through the transmission of construction data from the perspective of ICT, and is the essence of DX.

The methods used for the Kabagawa Dam project are being expanded to other similar work and are expected to become the foundation for construction management, working methods, and technology transfer at construction sites in the future. They are one aspect of the development of data-driven construction management.

These efforts have been highly evaluated for their expected contribution to the promotion of DX in the construction industry. As such, they were recognized as worthy of the Technical Award.