

Utilization of ICT and Initiatives for Improving Productivity

Domestic Civil Engineering: Utilization of AR, VR, and ICT (Yodogawa Weir Gate Improvement Project)

This project started as a “project to promote and implement construction DX using the latest digital technology,” and promoted the use of DX in various scenes by fully utilizing AR (augmented reality) and VR (virtual reality) technologies in construction DX. In addition, together with the client (Kinki Regional Development Bureau), we created a PR video summarizing DX and ICT utilization examples and communicated the appeal of the construction industry to society.



Reference link
Kinki Regional
Development Bureau
Youtube video
(Japanese)



Activity Example 1

To change the originally planned river-based approach to a land-based approach, augmented reality (AR) technology was used during discussions with the client regarding slope installation. This enabled smooth sharing of visual concepts and helped shorten the time required to reach consensus.



Activity Example 2

During in-river construction in the flood season, when formulating evacuation plans for equipment and materials in the event of typhoons or heavy rain, vehicle movements were simulated using a 4D model. This helped streamline the development of evacuation plans and improve the efficiency of information sharing.



Activity Example 3

By converting the BIM/CIM model, reflecting the actual placement of equipment and materials, into a VR environment, operators and workers can virtually experience potential contact hazards during crane operations. This enhances hazard prediction efforts and helps prevent accidents.

Domestic Building Construction: Improvement of Construction Productivity by Promoting the Use of Precast Concrete (Tsukishima 3-chome Redevelopment)

In this project, which is the largest scale domestic building, the semi top-down method was adopted, allowing underground construction while using the first floor slab around the high-rise building as a work platform, and the SQRIM/LVR method*1, which fully precasts columns and beams and does not provide cast-in-place concrete at the joints, was adopted, resulting in a significant reduction in construction period (achieving a four-day cycle per floor for the high-rise building). In addition, by utilizing various DX and ICT tools, we streamlined construction management operations and realized work style reforms, achieving eight site closures every four weeks in FY 3/25. *1: Patented construction method by Sumitomo Mitsui Construction and Obayashi Corporation



Installation of precast concrete underway at the first-floor slab level



Installation of a precast concrete beam



Installation of a precast concrete column



May 8, 2025: Full site view All PCA components installed