

Introduction

As the working-age population is expected to decline, improving productivity is an unavoidable challenge. We will use DX/ICT technology to improve productivity and streamline construction with unconventional ideas and actions to open the way to a hopeful future.

Labor Saving in Factories by Automatic Production

“IM Machine”



Automated production line for FR-Slabs with individual molds moving sequentially through each production section. The workflow from rebar assembly to form-work removal is streamlined and efficient. Automated work by machine is also used to reduce labor.

“Slip Former”



Semi-automated production line for FR-Slabs with a total length of 100m. The line is semi-automated for cleaning molds, placement inserts and steel, and concrete conveying, inserting, casting, and transporting, etc.

Labor Saving in On-site Construction

Cloud Project Management System for On-site Construction



This system allows various site data, such as site photos taken by drone, 3D GIS data, and process charts, to be linked and managed on the cloud. Data can be shared among the client, the construction site, and the construction company store to streamline meetings and communication.

This system was adopted as one of the trial projects by the Ministry of Land, Infrastructure, Transport and Tourism, and was introduced and tested at our construction site.

Specialized Machine “F-Rog” for Bridge Slab Replacement

It is possible to replace the Bridge slab with only single-lane regulation without restriction on two-way traffic, which would have a significant impact on general vehicle traffic. Wireless remote control using a tablet allows work while monitoring the status of the erector.



Labor Saving by Using Robot Technology

Automatic Wire Processing Robot



Hanging wires embedded in products are processed fully automated by this robot.

Automatic Rebar Tying Robot

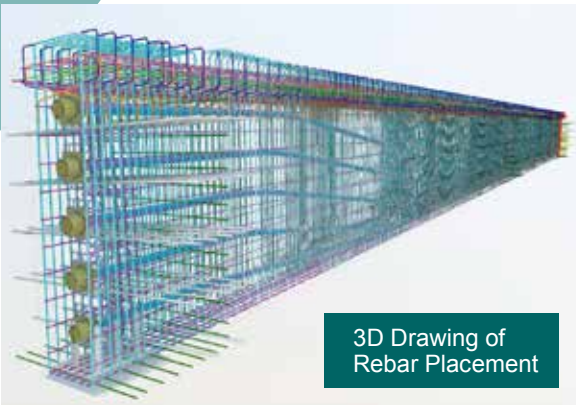


建ロボテック株式会社製「トモロボ」
NETIS番号 SK-200003-A

The robot automatically runs using the placed rebars as rails. Detects intersecting rebars and automatically binds them together.

Improving Work Efficiency with BIM/CIM

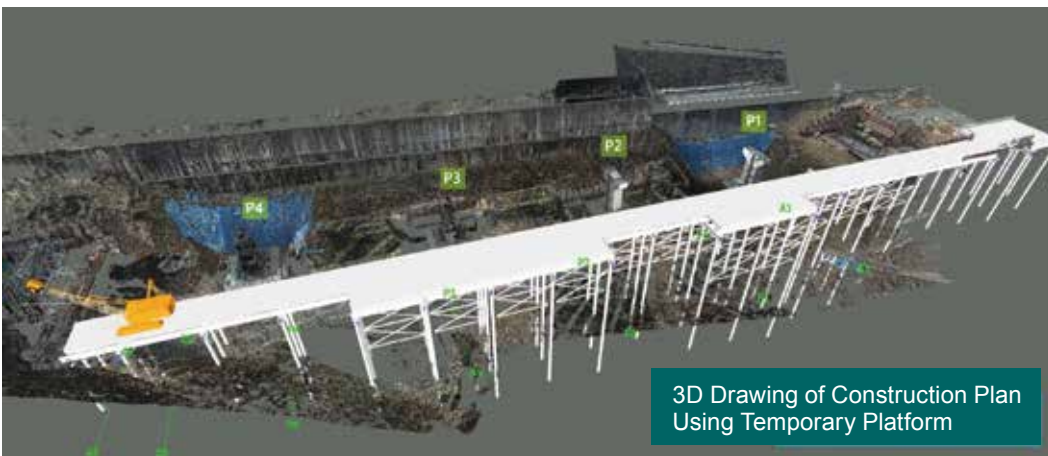
Design and Construction Using 3D Data



3D Drawing of
Rebar Placement



3D Drawing of Girder Erection Plan



3D Drawing of Construction Plan
Using Temporary Platform

Using 3D data for checking rebar arrangement and construction plan to improve quality and operations.

