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TAIHEIYO CEMENT CORPORATION
PACIFIC SYSTEMS CORPORATION

Launch of PreSLump AI® for Real-Time Concrete Slump Value Prediction System Using Artificial Intelligence (AI)

Taiheiyō Cement Corporation (headquartered in Bunkyo-ku, Tokyo; Masafumi Fushihara, President & Representative Director, hereinafter “Taiheiyō Cement”) and Pacific Systems Corporation (headquartered in Saitama City, Saitama; Yasuhiro Watanabe, President & Representative Director, hereinafter “Pacific Systems”) jointly commercialized the concrete slump value prediction system PreSLump AI® using Artificial Intelligence (AI). We are pleased to announce the launch of this system by Pacific Systems on April 3, 2023.

■Background to commercialization

In 2019, Taiheiyō Cement developed a technology for predicting concrete slump value using AI. Since then, we have been commercializing this technology jointly with Pacific Systems, which has AI technology expertise and develops plant control equipment and quality/sales/shipment control systems for ready-mixed concrete plants.

We have repeatedly demonstrated and verified slump value prediction accuracy of this system at ready-mixed concrete plants and concrete product plants, and Pacific Systems will now begin sales of PreSLump AI.

■About PreSLump AI

PreSLump AI uses image recognition technology to instantly analyze concrete in a mixer to predict the slump value in real time. Slump, an index value that expresses the fluidity of fresh concrete before it hardens, is one of the important quality indicators of concrete. At ready-mixed concrete plants, in addition to appropriate material controls and weighing controls, operators visually monitor the mixing condition of concrete in the mixer to stabilize the slump.

By introducing this technology, slump value prediction with a consistently high accuracy rate can be realized, and stable concrete quality can be expected. The predicted slump value is displayed on the surveillance monitor instantaneously during mixing so that it can be quantitatively evaluated in real time by anyone without relying on specialist concrete manufacturing experience. PreSLump AI further automates concrete production and contributes to laborsaving, improved efficiency of quality control and increased productivity.



Fresh concrete during mixing

■System Features

- PreSLump AI uses image recognition by deep learning to instantly predict the slump value of concrete using images of fresh concrete during mixing in the mixer drum.
- PreSLump AI comprises a camera that capture images of concrete in the mixer, a prediction PC equipped with AI software, and a data-entry tablet.
- Captured images are used for AI updating as well as prediction. Regular updates to AI will enable us to respond to new formulations, material fluctuations and seasonal variations, and maintain and improve prediction accuracy.
- PreSLump AI is provided as a service on a subscription basis that enables and includes periodic AI updates.



* PreSLump AI is a registered trademark of Taiheiyo Cement.

* PreSLump AI “logo” is pending trademark registration.

* Products, services, and other information in this release are accurate at the time of announcement and subject to change without prior notice.