

AI Transform Shield®

Optimal drilling management derived from past and present data

Overview

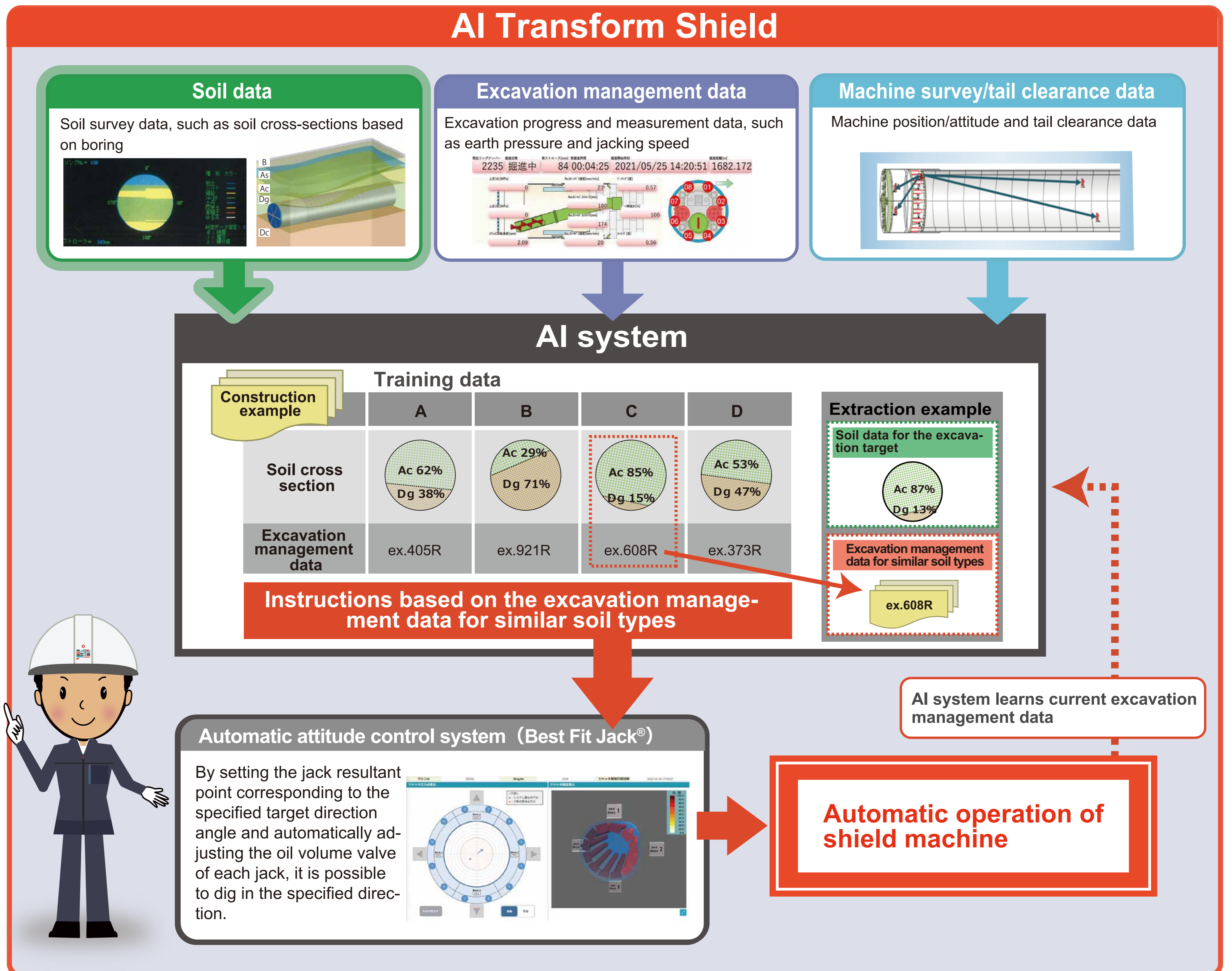
In shield tunnel construction, an AI that has learnt past excavation information based on management data, such as earth pressure and jack speed, during the current excavation, survey and measurement data, such as the position and attitude of the shield machine, and target soil data, automatically controls the shield machine.

Features

Previous excavation management and soil data were linked and used as training data for the AI.

The AI performs optimal jacking operations by referring to training data similar to the soil type currently being excavated.

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Merit

① Advantages of using AI

By utilizing AI, good past excavation management data are reflected in current excavation management instead of skilled technology, thereby improving quality.

② Achieving efficiency

Complicated surveying work, creating excavation instructions, organizing excavation management data, etc. are simplified and reduced, making the work more efficient.

③ Realization of management suitable for the site

The AI system further evolved by learning new excavation management and soil quality data obtained during construction, making it possible to manage excavations suited to the site characteristics.