

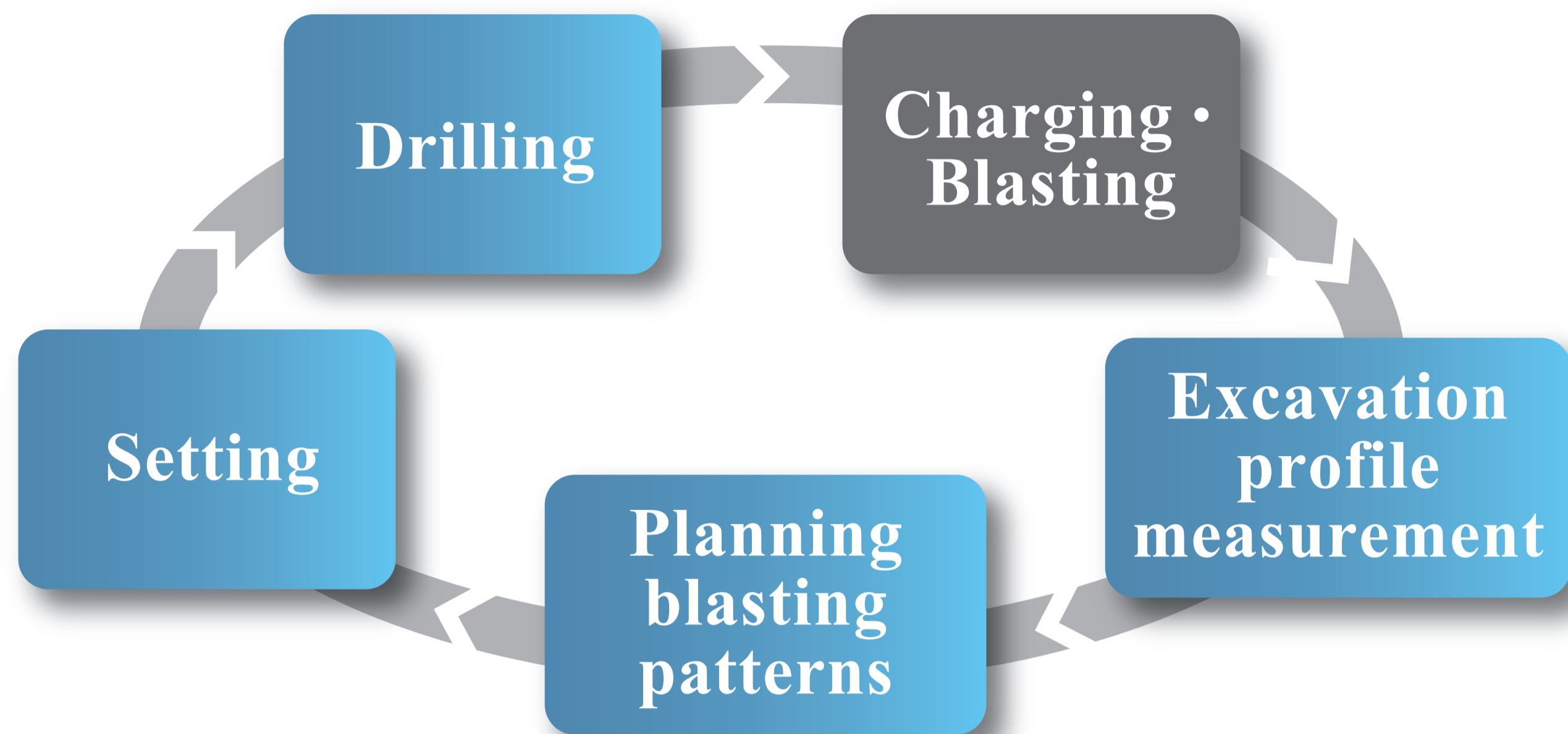
# Next-Generation Tunnel Construction System “Shimizu Smart Tunnel”



## Automation of Tunnel Construction (Blasting)

### Blast Master® II

This system automatically designs optimal blasting patterns based on geological data, minimizing over-break and under-break. It automates the blasting cycle, from plan creation to excavator settings and drilling.



Automation of Blasting work

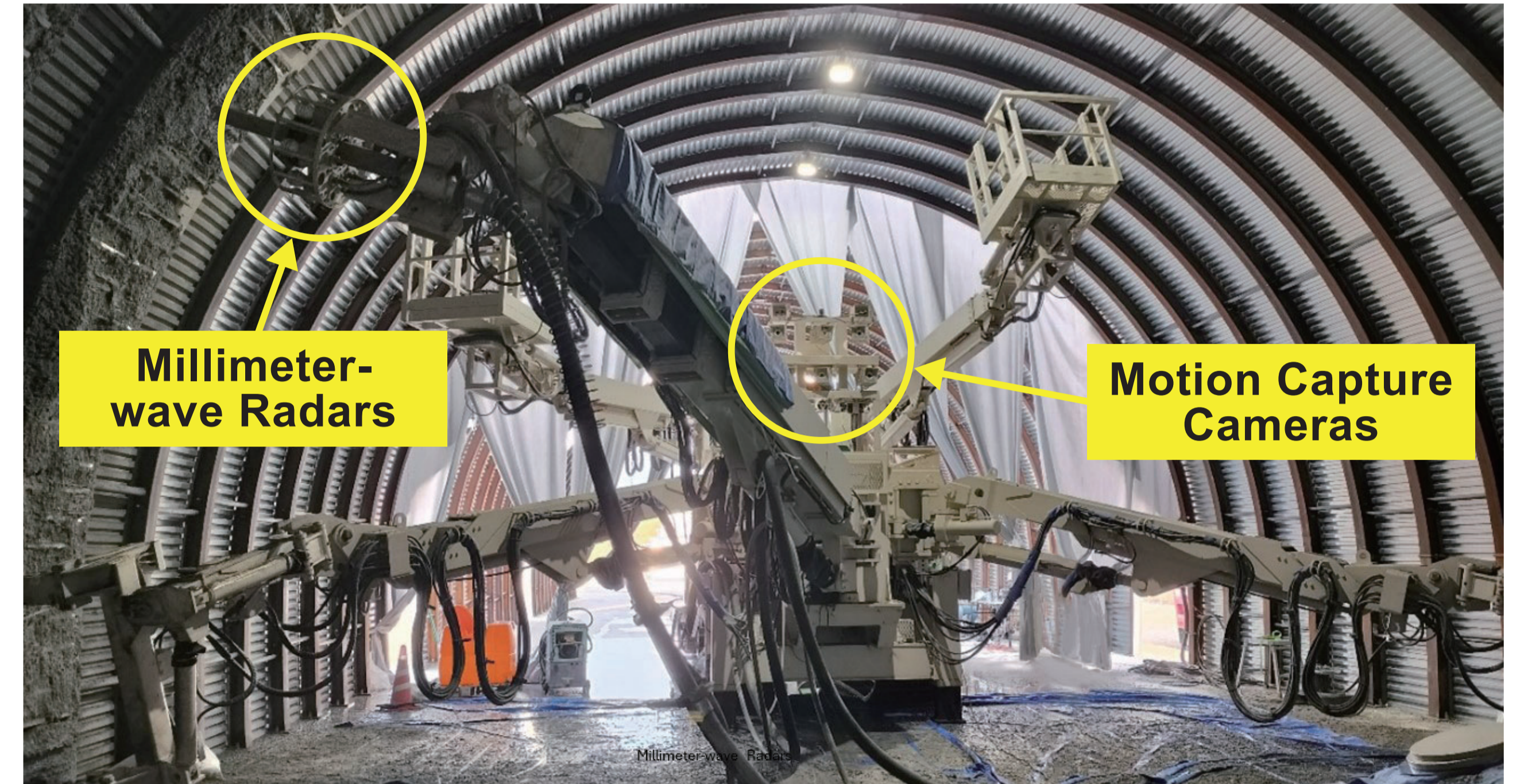
Smoothing

Reduction in Working Hours

## Automation of Tunnel Construction (Shotcreting)

### Automated Shotcreting System

This system fully automates the shotcreting process and provides real-time measurement and display of sprayed concrete thickness during mountain tunnel construction, thereby significantly improving work efficiency and quality.



Ensuring Safety

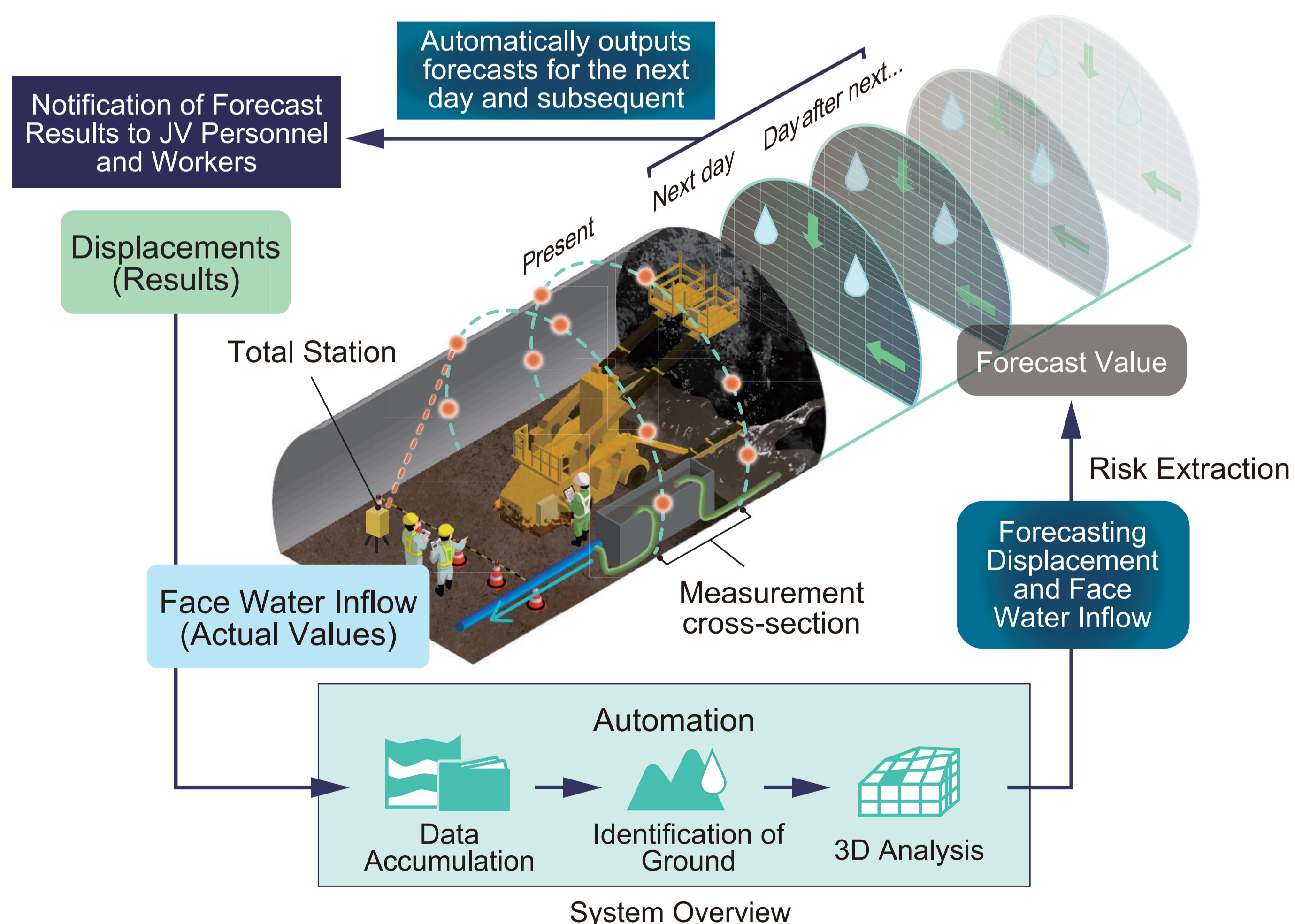
Ensuring High Quality  
(Smoothing of Shotcrete Surface)

Ensuring Accurate Final Profile

## Automation of Tunnel Construction Management

### Ground Condition Forecasting System® (Groundwater / Deformation)

This system automatically manages and analyzes spring water volume and convergence data during construction, and forecasts spring water volume and displacement ahead of the face.



Automation via Digital Twin and AI

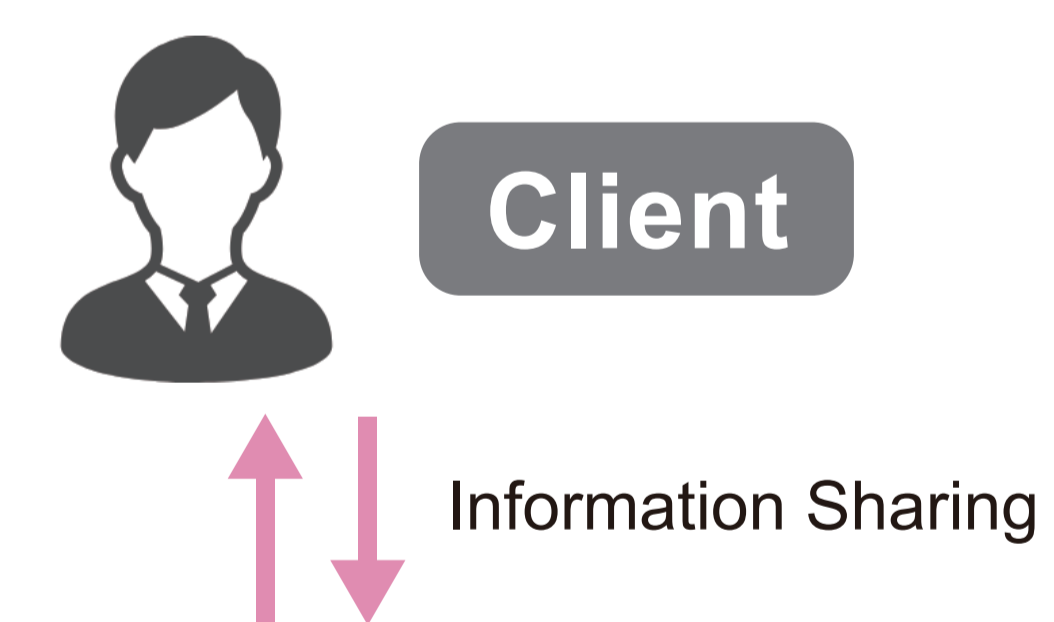
Rationalization of Construction Management

Reduction of Geological Risks

## Automation of Data Interconnection

### Tunnel Data Platform

Convergence and investigation data from the tunnel data platform are displayed on a dashboard, enabling easy confirmation of the finished profile and quality data.

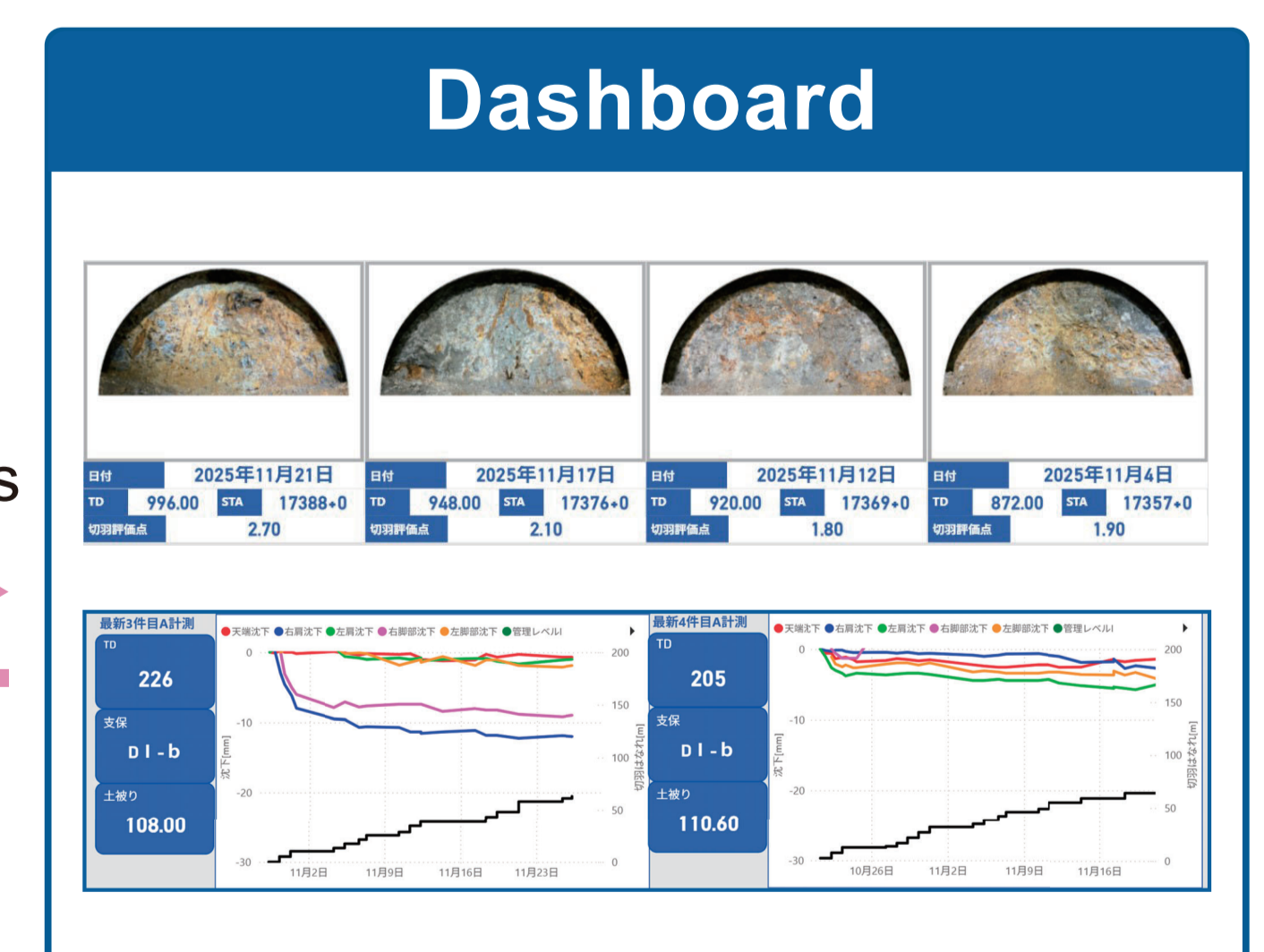


### Tunnel Sites Database

#### Data Group of Active Construction Sites



Data Analysis



Real-time Site Operations Monitoring

Rationalization of Construction Management Operations

Seamless Information Sharing



#### Contact

Ryo Hemmi  
✉ r\_hemmi@shimz.co.jp