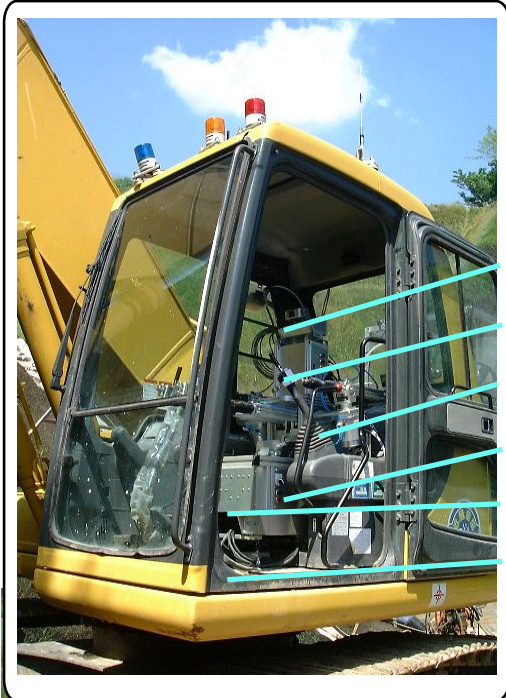




Tele-operated Robot for Backhoe (RoboQ)

FUJITA

 Daiwa House Group®



The Tele-robot is easy to transport. Once at the disaster site, it can be attached to almost any commercially available backhoe.

Monitoring unit

Relay unit

Actuation unit

Air Servo unit

Control unit

Frame unit



Tele-operated robot for bulldozers (BuruQ)



Tele-operated robot for crawler dumps (KuroQ)



Tele-operation



Unmanned construction technology TELE-EARTH WORK SYSTEM



~FUJITA's unmanned construction technology for removal of soil and rocks using ultra-remote operation~

This unmanned construction system enables us to remotely control construction vehicles used in the excavation, loading, transportation and disposal of soils and rocks from a remote operation room located in a safe area by using stereoscopic imaging, computer graphics and monitors. Using this system, equipment can be controlled at distances of up to 3 km. This system was adopted as an unmanned construction pilot project for the removal of soils and rocks at the Mizunashi area in Mt.Unzen-Fugen – as part of a “Field test program” for the Ministry of Construction (now the Ministry of Land, Infrastructure and Transportation).



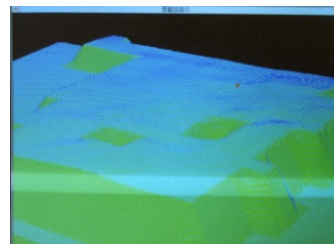
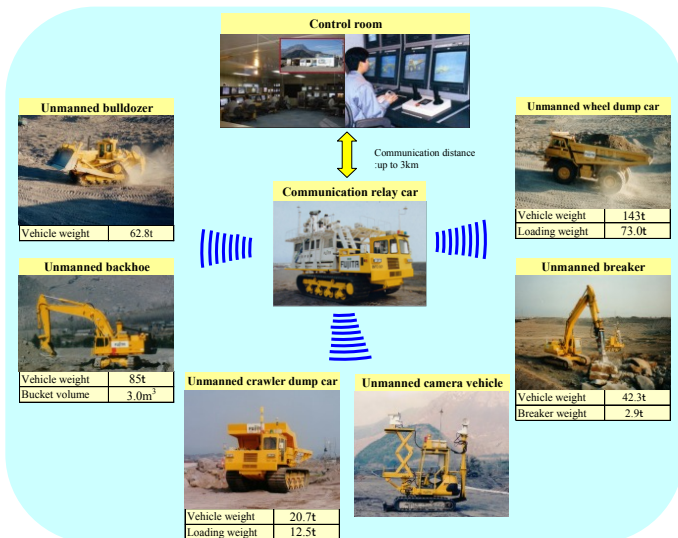
Outline of unmanned construction



Control room

<Characteristics>

- 1) Ultra-remote control can be performed from a distance of up to 3 km through use of communication relay cars.
- 2) Construction vehicles can be remotely controlled simultaneously using bidirectional communication systems.
- 3) Using monitors in the remote control room, realistic remote control is possible by using stereoscopic images, sounds and computer graphics.
- 4) Vehicle maintenance problems can be avoided through transmission of realtime data about their mechanical condition to the control room.
- 5) Excavation management (excavation volume, excavation accuracy, progress and positions of vehicles) can be performed using GPS and total station.



Support system



Application to demolition work



Application to installation of concrete blocks