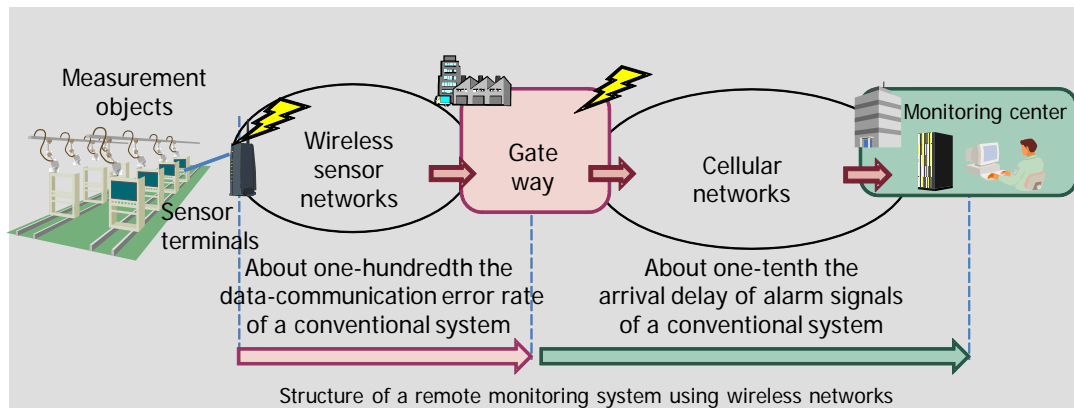


Hitachi, Ltd., web site 【1<sup>st</sup> Sep 2011 News Release】 <http://www.hitachi.com/New/cnews/110901.html>

## Highly reliable wireless communication technology for remote monitoring of factories and buildings



A highly reliable wireless system for remote monitoring has been developed. The system gathers data, such as facility conditions measured by sensor terminals located in factories or buildings, at a monitoring center via cellular networks.

This system reduces the data-communication error ratio by avoiding the use of other radio waves, and sends abnormal data measured by the sensor terminals as alarms preferentially. Results of experiments done with a prototype system set up in a Hitachi Groups factory show that the data-communication error ratio at a sensor terminal was reduced to about one-hundredth that of conventional technologies and that the arrival delay of alarm signals on the cellular networks was reduced to about one-tenth.

### ■ Features of the technology

- ① To reduce data-communication errors caused by interference between radio waves emitted from sensor terminals and those emitted from existing equipment, this system always uses a frequency range that enables smooth communication.
- ② To reduce the arrival delay of alarm signals, the system sends only important alarm signals when it detects a decrease in the communication speed of a cellular network.

### ■ Future directions

This wireless-communication technology is expected to be applicable not only to energy-management systems (EMSs) but also to social infrastructure such as “smart cities,” which aim to create next-generation energy and social systems city-by-city and region-by-region.

### ■ Conference presentation

Results of this research was presented at the Institute of Electrical Engineers of Japan Electronics, Information and Systems Society Conference, and the Institute of Electronics Information and Communication Engineers Society Conference.

### ■ A word from the development team

We plan to verify the effects of this technology by applying it in an actual environment. In addition, we will search for applications besides EMSs.