

ABSTRACT

Provided is a distributed monitoring system for scaffolding status, environmental compliance of construction sites, and working environment of workers based on mesh networking. The system includes: a network provisioning node and a plurality of multi-parameter
5 environmental sensors configured to collect and update various sensor data; a data analysis and alarm system configured to analyse data and issue safety risk alarms related to environmental or scaffolding conditions; and a data visualization platform configured to visualize relative positions of the sensors on scaffolds by analysing signal strength differences between the sensors, and display historical data of parameters of the sensors as well as detected alarms and events with
10 corresponding occurrence timestamps.

Fig. 2 for publication