Electric Site – site management system factsheet

The machines being used as a part of Volvo Construction Equipment’s Electric Site project are controlled by a site management system, which tracks the vehicles and ensures efficient equipment flow and safe operations.

Site Assist has three main functions. Firstly, it controls the overall operation at the Electric Site. This involves, for example, choosing which automated machines should be active and what the different machines should do. Secondly, Site Assist provides insight into production KPIs, such as how much material is being produced. Lastly, the system
acts as the integration point of data between all the various units and systems being used on site. Together, these functions enable Site Assist to coordinate the operations.

The Site Assist system consists of several subsystems with different purposes. One subsystem is the user interface, which the site operator uses to decide which production steps of the site should be active. The user interface is also used to visualize site information, enabling the site operator to run the site in the best possible way. Other important subsystems are the fleet and traffic control modules. The fleet and traffic control modules ensure that the machines are doing the right things in the right spot, and that they maintain sufficient distance from one another throughout the different work steps. This helps to ensure safety on site. Finally, there are also subsystems in the different machines. One such subsystem is Co-Pilot, which is used in the excavator and wheel loader to send and receive information about the site production, and command the automated haulers to move to desired locations.

Thanks to Site Assist, the autonomous machines can share information with one another (e.g. where they want the others to be) and work together as a fleet. This enables continuous extraction of gravel from the quarry pit, which results in more efficient equipment flow, improved cost efficiency and time savings on site.

“The Site Assist system we’ve developed, which is partly based on Co-Pilot, enables the machines to work together as a fleet, loading, unloading and charging in a cyclical fashion,” says Johan Sjöberg, system owner for site management and automation for Volvo CE. “It is one of the most important pieces in the complete system. It plays a central role in ensuring that the goals we have on site are fulfilled.”

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For further information, please visit: www.volvoce.com

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