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intermec solutions

BAR CODE SYSTEM PROVIDES SAFETY CHECK TO CHEMICAL MIXING OPERATION

SEMICONDUCTOR MANUFACTURER

UNITED STATES

industry

MANUFACTURING — ELECTRONICS

applications

WORK-IN-PROCESS · QUALITY CONTROL

situation

A leading manufacturer of semiconductors employs over 2,000 people at a location in which Siemens' programmable logic controllers (PLC's) operate software that controls all chemical mixing operations.

critical issue

Management was concerned about the possibility of errors during the chemical mixing process, due to workers connecting feeder hoses to the wrong drum of hazardous chemicals. The plant has three chemical mixing rooms, each with an average of 30 to 40 drums (standard industrial 55-gallon drums). The drums contain a wide range of proprietary and dangerous chemical formulations.

reasons

The weakness of the existing system was based on the fact that the controlling PLC and software only allowed for one-way communication: if a worker hooked up the wrong hose to the wrong drum, the result could be catastrophic. There was no mechanism in place to alert the worker that the hose was being connected to a particular drum in error.

vision & capabilities

Management wanted a way to provide chemical mixing workers with the means to verify the location and placement of each new drum against the mixing room's database. Also, they wanted the ability to confirm each hose was connected to the proper drum.

intermec solution

Intermec provided the site with a radio frequency bar code data collection system that employed a JANUS™ JR2020 Hand Held Computer with built-in scanner in each of the chemical mixing rooms. Intermec MODELS 9180 and 9181 provide the network controller backbone of a 900 MHZ radio frequency connection to the hand-held computers. Whenever workers move a new chemical drum into the mixing room they first scan the bar code label on the drum, then scan the bar code label on the hose. The system would then alert workers to any discrepancy that might result in an improper connection. That's because the hand-held computer scanners are not only capable of capturing bar coded data: the JR2020's also bring information from the Siemens host computer to the chemical room workers. This two-way communication capability provides the extra safeguard against accidentally mixing a potentially explosive chemical combination.

benefits

Management has eliminated a potentially hazardous problem. The system is 100% reliable and accurate, and mixing operations are more efficient.

Intermec