

Emerging Trends in e-Manufacturing, Web-enabled Integration and Smart Manufacturing

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Abstract

E-manufacturing is a system methodology that enables the manufacturing operations to integrate enterprise operations through web-enabled platform. A smart machine can make decisions about manufacturing processes in real-time and diagnose itself to minimize downtime. Smart manufacturing provides beyond lean paradigm by exploitation of real-time information across the manufacturing enterprise to optimize value chain. Emerging trends of e-manufacturing and smart manufacturing will be presented. Web-enabled integrated platform is a visual environment that supports real-time web-based information systems and allows flexible web-enabled monitoring and analyzing. E-manufacturing is a system methodology that enables the manufacturing operations to successfully integrate with the functional objectives of an enterprise through the use of web-based systems. A smart machine can make real-time decisions about manufacturing processes, and with plenty of adaptive controls and better machine vision. It can make decisions about the manufacturing process in real time and diagnose itself to minimize downtime. Smart manufacturing provides beyond lean paradigm, driven by the availability and exploitation of real-time information across the manufacturing enterprise to optimize the value chain from suppliers through manufacturing plants and into the distribution channel. This presentation will provide emerging trend of e-manufacturing with web-enabled integration and next generation smart manufacturing.