

# Smart Manufacturing Knowledge Embedded Facilities

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Smart Manufacturing envisions the enterprise that integrates the intelligence of the customer, its partners and the public. It responds as a coordinated, performance-oriented enterprise, minimizing energy and material usage while maximizing environmental sustainability, health and safety and economic competitiveness.

Greater manufacturing complexity and radically different performance objectives will require the pervasive application of networked,



real - time information - based technologies, knowledge - embedded facilities, a reactive operational approach to one that is predictive and compliance to performance.

Capital and operating costs will need to be lowered. Performance will need to be responsive to multi-faceted objectives. Additionally, the manufacturing workforce with substantially more advanced training and skills will not only be fundamental but will also be the key competitive advantage. Small, medium and large manufacturers will depend on high level training and skills of workforce throughout the supply chain.

Talent and workforce training will no longer be about vertical factory operations but about dynamic interaction, innovation, rapid product changes, and new products to market all with safe and sustainable operations spread across a widely distributed base of small medium and large companies. Not only will talent and workforce training need to address a dramatically



distributed manufacturing approach but also the technologies that support it.

Smart Manufacturing both leads and respond to a dramatic and fundamental business transformation toward performance - based enterprises, demand - driven supply chain services and broad - based workforce involvement and innovation. Intensification of "manufacturing intelligence" comprises the real-time understanding, reasoning, planning and management of all aspects of the enterprise manufacturing process.