DESCRIPTION

During the 1990s, an ambitious three-year research program identified the steps manufacturing companies must take to become globally competitive. The prestigious Next Generation Manufacturing (NGM) Project combined the insights and perspectives of business and academia's most astute thinkers. It featured the cumulative experience of over thirty top global manufacturing firms, the Agility Forum, the engineering and management schools of the Massachusetts Institute of Technology, and the Oak Ridge Centers for Manufacturing Technology, as well as many other highly regarded organizations. The Project resulted in a vision for the future of manufacturing and a framework for action.

Next Generation Manufacturing is the first book to cover the NGM Project and its recommendations for creating and maintaining a successful manufacturing enterprise. It describes how manufacturing is continuing to evolve and the significant changes companies must make to remain competitive in the next decade.

Addressing the dilemmas faced by today's corporate management, the authors walk the reader through strategies for meeting corporate goals and the expectations of customers; the techniques and tools available to achieve them; and how to define success through measurements. They offer a comprehensive program for applying the product development techniques, metrics, and knowledge management approaches for stellar manufacturing.

Vital to next generation manufacturing is understanding the roles of innovation, knowledge, and people in ensuring the competitive readiness of a company. The book identifies the strategies to achieve this, including:
* Build a strong workforce

* Develop and implement advanced knowledge processes

* Use advanced manufacturing systems, processes, equipment, and technology

* Integrate competitive strengths

Included are real-world examples from participating firms in the NGM Project that have achieved NGM attributes, such as Chrysler and Boeing, as well as a full-length hypothetical case. Also provided are the methodologies for making a high-quality product at the lowest possible cost and getting it to market in the shortest possible time.

The authors have extended the work of the NGM Project by developing ways to link NGM with corporate strategic goals for achieving and sustaining profitability. They expand the concepts of NGM by covering management and financial issues that, until now, have not been fully addressed. The authors also provide a glimpse into the future, examining where manufacturing may be headed beyond the next decade.

For any manager or owner concerned about the long-term survival of their manufacturing enterprise, Next Generation Manufacturing provides the knowledge, strategies, and tools necessary for achieving success in the twenty-first century.

Praise for

NEXT GENERATION MANUFACTURING

"Jordan and Michel capture the diverse and often conflicting concerns of manufacturing business leaders worldwide. . . . The lessons [in this book] have widespread application in companies of almost any size."-Professor Peter Sackett, Head of Department, Cranfield University

"Throughout history, manufacturing of flint arrowheads to sophisticated computer chips has been a mainstay of societal growth. Indeed, technology epochs have been named for significant occurrences; e.g., the Industrial Revolution, manufacturing productivity fueled by mass production technology. We are now witnessing the start of one of these rare epochs, the Knowledge Age, manufacturing productivity fueled by information and knowledge technology. Next Generation Manufacturing provides an exciting insight into this emerging epoch; an easily read, accurate, and insightful book on manufacturing history in the making."-Gene Meieran, Intel Fellow, Intel Corporation
ABOUT THE AUTHOR

JAMES A. JORDAN Jr. is cofounder and President of NGM Knowledge Systems, an educational and management consulting firm for manufacturing companies. Before founding the company, Jordan participated in the NGM Project and in other advanced manufacturing R&D projects. Jordan is the author of numerous papers and patents.

FREDERICK J. MICHEL is cofounder and Executive Vice President of NGM Knowledge Systems. With more than forty years of experience in program management, product design, manufacturing, and product support, he also participated in the NGM Project. Michel is a board member of the Society of Manufacturing Engineers.

SERIES

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