

## **Cost Management in FA Factory**

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The huge trade deficit plaguing the United States in recent years has become not only an emergent national issue but also an irritating international predicament. While anxiously searching for quick solutions, American managers have learned that one of the most important competitive weapons is an efficient and flexible manufacturing system, capable of producing quality products with low cost and short leadtime, from product design to its final delivery to customers.

Computer integrated manufacturing (CIM), or factory automation (FA)-a term better known in Japan, has been widely recognized as the most promising approach to achieve the above goal. However, like numerous previous manufacturing techniques, the United States may lead the world in developing FA technologies, Japan has been more successful in implementing them. If factory automation holds the key to the revival of American competitiveness, why, then, is there a lack of enthusiasm in actual implementation? Answers frequently heard include: the difficulty in using traditional capital budgeting techniques to justify the large financial investment, the displacement of existing workforce, the additional market demand required to sustain the increased production capacity, to name just a few. To resolve these difficulties, it may be beneficial to explore the approach that Japanese industries have taken to solve similar problems.

The main objective of this paper is to report findings of FA in Japan with a focus on the experiences Japanese industries have accumulated in the past. Hopefully, this study can find answers to such basic questions as: How did Japanese companies justify the huge FA investment? What kind of benefits can FA realize? What potential problems a company may encounter in the process of automating?

Between June and September of 1987, I visited around twenty well-known Japanese companies, including NEC, Mitsubishi, Nissan, Mazda, Nippon Steel, etc. Products manufactured in these companies vary from computers, facsimilar machines, industrial robots, precision machines, automobiles, car stereos, to air

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conditioner condensers.

A questionnaire, distributed to the plant managers while visiting their factories, consisted of the following major sections: general information, financial justification, design and selection, benefits and problems encountered, and suggestions to future FA users. Major findings of this research are presented in this paper.