



## **62<sup>nd</sup> Advanced Manufacturing Forum**

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**Sponsored by**

**The Center for the Management of Technological and Organizational Change**

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### **Adapting to Change in a Period of Sustained Growth**

**Geoff Davis, President**

**Gary Mooney, Materials Manager**

**Poli-Film America, Inc.**

Poli-Film America manufactures a complete line of surface protection films designed to prevent marring, scratching or staining of exposed surfaces. They service a diverse, world-wide customer base – automotive, aerospace, glass, metals, electronics, furniture, to name just a few. Their manufacturing facility is located in Illinois and their distribution centers are in Georgia, Pennsylvania, California and Monterrey, Mexico. Started in 1984 by Poli-Film GmbH, the company suffered a downturn in 2000, at the same time as a general downturn in the American economy.

After three years of hurt, in 2003, Poli-Film decided to change totally the company's philosophy of manufacturing and the way manufacturing was supported, and its approach to its market. Poli-Film had to rethink itself – be it with Lean, Six Sigma, Continuous Improvement – or the business would disappear. Initially, Poli-Film undertook to plant a seed in the brain of every employee relative to the journey they were about to undertake, and gain formal acceptance of a simple company-wide vision based on Quality. The vision: create employee awareness of profit and volume objectives, give employees ownership of and responsibility for daily work activity, and commit to a process of rapid change with a different philosophy and culture.

One of the identified critical support factors for the new vision was the development and implementation of a new ERP system. Poli-Film had very specific criteria that the new ERP would have to meet: it must come with regionalized 24/7 technical support, it must be out-of-the-box software that was manufacturing-driven with little or no customization, and its price tag could be no greater than \$100K. Ultimately, the new ERP system brought improvements in production processes and the analysis of business metrics.

The ERP system gives Poli-Film America the ability to measure and analyze inventory, throughput rates, financial ratios and other performance metrics. The company is able to implement a simple 'management by objective' scheme based on individual and departmental targets – three or four targets annually that are important for business growth – for the sales force through to the

last operator on the shop floor, linked to volume/profit development. For example, if sales brings in a specific amount of volume, that volume filters through to the shop floor to improve through-put rates (measured in square feet produced per direct labor hour paid). Through-put increased by 151 percent over four years, from 6,103 sq. ft to 15,371 sq ft per direct labor hour.

At the heart of an operator's work station is a PC loaded with the ERP's software. The software is coded in HTML, and runs through Internet Explorer. Poli-Film has access to the HTML code and can make changes as needed. The company has realized many gains with its ERP system.

- Electronic inter-branch transfers go directly into the production scheduling department, eliminating any sales order processing.
- Production has real-time traceability of the entire manufacturing process because every key component of inventory is serialized.
- There is real-time electronic capture of quality data, eliminating all manual documentation from the quality department. Many customers, particularly those in high-technology industries such as aerospace, require certificates of conformity. Poli-Film is able to raise any documentation relative to certification quickly. Quality control standards within this particular business require that production records are retained for two years, to be able to test the product and ensure that Poli-Film was or was not at fault. The ERP system has made this standard simple and easy to meet.
- The time required to procure raw materials was reduced by 400 percent. There is electronic verification of raw stock to ensure that the correct combination of materials is used. (With the manual system, the wrong adhesive system often went to the wrong type of film. So Poli-Film produced scrap. The ERP requires electronic verification of each stage of the process.)

Global companies all face the same difficulty of people speaking different languages, or people not speaking English at all. Poli-Film developed a very fast and simple method of input and output of shop floor data – a basic touch-button screen at every machine station where the operator can log in and enter the type of material, where it is, how much is taken. Waste is automatically calculated. Returns to stock are logged in. It used to take a production supervisor to record all of this information, but operators have been empowered.

At the end of the day, people go to work to make a living, said Davis. The ultimate reward is money in the pocket. Poli-Film employees have benefited by averaging six percent pay raises and by receiving bonuses since 2003. Employees have earned it – the operators have responsibilities for entering data that used to be the purview of quality and production supervisors. Poli-Film's current volume capacity to apply polyethylene film, the water-based emulsion type, is at 1.5 billion square feet. With a total North American market of approximately 7.5 billion square feet, Poli-Film is presently operating at 85% capacity. In 2003, Poli-Film did \$16M. 2007 is projected to be \$40M. The seeds of a new vision that were planted have clearly taken root and are growing stronger every year.