



Is your automotive business **people** ! ready?

## Manufacturing and Resources

### Adjusting to the Times in Manufacturing Operations: Microsoft Helps Auto Makers Shift Gears

#### Big Changes Ahead

Spiking energy prices and global environmental concerns have changed the game for automakers.

Yesterday's best selling vehicles—light trucks and SUVs—aren't selling like they did when gasoline prices were cheaper. And popular and political concerns about emissions and fuel consumption from larger, fossil-fuel burning vehicles have people around the world changing their minds about the type of engines, chassis, and ride they want.

Responding to such a sea change of customer preference, the makers of automobiles and industrial equipment are rethinking nearly everything about how they run their business. To survive and thrive, automakers are working hard to:

- Respond to increasing regulatory pressures, like the increase of CAFE and emissions standards.
- Manage a shortage of skilled workers.
- Compete in a dynamic manufacturing environment where setup times make or break productivity.
- Integrate business processes and operations at global manufacturing plants that run flexible production lines.

The rapid changes in consumer demand—for example, the current shift from trucks to cars in the United States—require flexibility and an agile response from manufacturers to maintain market share and profitability. Automakers are learning that they must monitor and make crucial decisions about production progress throughout the process, especially in view of complex global supply chains with great distances between manufacturing operations and corporate headquarters.

#### Microsoft Offers Visibility and Collaboration Solutions

Through its own experience spanning nearly three decades, Microsoft knows the manufacturing environment and has developed technology solutions that give plant managers and supervisors the information devices they need to integrate their entire operation.

Microsoft® solutions help provide manufacturers with visibility into all plant floor operations so that people throughout the organization—from the plant to the back office—can better manage quality, cost, production flow, and security using interfaces based on familiar tools and optimized according to their role.

To promote agility and the minute-by-minute coordination of complex processes that reach across the plant boundary, the Microsoft suite of solutions enables and simplifies collaboration and communication. With Microsoft platforms and integration solutions, customers and partners can build common architectures for publishing multiple events enabling business transparency.



*Microsoft and its partners offer technology tools to monitor, control, and manage the plant floor, manufacturing control and execution systems, and ERP systems. Microsoft solutions integrate with existing systems—from plant floor to warehouse to control room to back office—to provide a single consolidated view.*

Using Microsoft solutions, today's workers can take advantage of information tools that facilitate timely, correct decision making through simple, integrated user interfaces and better facilities for powerful analysis and immediate visibility of process state and issues. For instance, by deploying RFID chips on inventory parts, an automaker's employees can monitor and optimize workflows throughout the manufacturing operation. Or, if a part is found to be faulty, the RFID chips can help the automaker locate where those parts are in the manufacturing organization and replace them.

But Microsoft knows that all manufacturing workers don't work behind a desk. Microsoft is moving manufacturing process monitoring off the desktop through Microsoft Surface™, a 30-inch tabletop display whose unique features make it possible for several people to work independently or simultaneously, all without using a mouse or keyboard, at places throughout the plant. Surface is ideal for plantwide monitoring systems and in particular for "lights out" operations.

Plant personnel and executives can benefit from similar flexibility, irrespective of their locations, by taking advantage of Microsoft mobile solutions that make financial, operational, supply chain, and on-shift personnel data available at their fingertips.

## Key Benefits of Manufacturing Operations Optimization

- Lower manufacturing costs.
- Increase operational efficiency, on-time delivery performance, and competitiveness.
- Improve quality and customer service.
- Generate new sources of value.
- Ensure regulatory compliance.
- Operate efficiently locally, but with global coordination.

## Key Microsoft Manufacturing Operation Technologies

Microsoft has a powerful, versatile business intelligence platform that is complemented by comprehensive collaboration tools and technologies:

**Windows Mobile®** software provides an exceptionally versatile platform for delivering and developing mobile applications and the ability to maximize existing IT assets and knowledge within an organization. It also gives greater control over security; centralized, streamlined device management; and a more scalable management solution that can support tens of thousands of users per server.

**Windows Vista®** Business operating system has powerful new security features that better protect the key information that businesses depend on. Employees can use enhanced mobility technology to stay connected in and out of the office, and they can find information and collaborate more easily using new search and organization features. And companies spend less time on technology support issues with the advanced network management features in Windows Vista Business.

**Microsoft Office for Business Applications** offers solutions that help information workers access design information for documentation, maintenance, and repair.

The **2007 Microsoft Office** system provides user-friendly ways to access, analyze, and share information.

**Microsoft Surface** is the first commercially available surface computer from Microsoft Corp. It turns an ordinary tabletop into a vibrant, interactive surface. The product provides effortless interaction with digital content through natural gestures, touch, and physical objects. In essence, it's a surface that comes to life for information collaboration throughout the manufacturing operation.

The **Microsoft .NET Framework** is a comprehensive, consistent programming model for building applications that have visually stunning experiences, seamless and secure communication, and the ability to model a range of business processes.

**Microsoft BizTalk® Server 2006** builds on the Business Process Management and SOA/ESB capabilities in prior releases to help organizations extend core process management technologies with new capabilities like native support for Electronic Data Interchange, AS2, and RFID. It closely aligns with the 2007 Office system and Windows Vista, including key .NET Framework technologies such as Windows® Workflow Foundation and Windows Communication Foundation.

**Microsoft Office PerformancePoint™ Server 2007** allows efficient planning to meet changing business conditions, analysis of variances, and monitoring of progress in a scorecard or dashboard.

**Microsoft Office Project Server 2007** enables the organization to more effectively manage and coordinate work ranging from one-time projects to complex programs across the entire project life cycle. It is designed to be accessible by its clients, Microsoft Office Project Professional 2007 and Microsoft Office Project Web Access.

**Microsoft Office SharePoint® Server 2007** offers enterprise portal solutions that help provide role-based access and real-time visibility to consolidated product and business information through dashboards.

**Microsoft SQL Server® 2008** data management software brings data together from virtually any source within an organization and enables online analytical processing (OLAP) so that decision makers can centrally define and manage organizational business logic. It also supports simple ad hoc analysis and sophisticated predictive analytics in familiar, easy-to-use tools, which can be used to publish highly formatted and interactive reports that make data easily accessible to a large number of people.

**Windows Server® 2008** operating system is designed to power the next generation of networks, applications, and Web services. With Windows Server 2008, you can develop, deliver, and manage rich user experiences and applications, provide a highly secure network infrastructure, and increase technological efficiency and value within your organization.

[www.microsoft.com/automotive](http://www.microsoft.com/automotive)

## About the Microsoft Worldwide Automotive and Industrial Equipment Group

Microsoft solutions empower excellence in the automotive industry through better collaboration, integration, and dissemination of information across the whole value chain. Microsoft and its extensive partner ecosystem provides solutions addressing accelerated innovation and product development, lean manufacturing operations, integrated flexible global supply chains, and superior sales and customer service experiences. Computer platforms—extending from car to enterprise to cloud—enable transparency and insight, drive faster and better decision making, and empower people to improve business processes and maximize opportunities.



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