

Beating Complexity, Achieving Operational Excellence — Call to Action for the Industrial Equipment Industry

WHITE PAPER

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INTRODUCTION

IDC Manufacturing Insights recently published global research from a survey of 722 manufacturing leaders across eight countries and four industry verticals, namely industrial equipment and machinery, metal fabrication, automotive, and high tech. The resulting white paper — *Beating Complexity, Achieving Operational Excellence* — summarizes the key findings from this survey and provides essential guidance for manufacturers developing their strategies post recession.

The present paper provides industrial machinery organizations with IDC Manufacturing Insights' essential guidance and a 'call to action' to achieve success in the current business environment.

Key Industry Challenges

- **Dramatic complexity increase** — The industrial machinery industry manufactures complex, low-volume/high mix products. The bill of materials is deep, manufacturing routings are circuitous, and components are sourced from multiple suppliers located anywhere in the world. The complexity of machinery technology is increasing dramatically with the proliferation of electronics and software on board. Although advanced machinery technologies are generally difficult to imitate or commoditize, they are increasingly being offered by organizations from all over the world, thus blurring traditional product differentiation and significantly heating up competition. Globalization is opening up markets, while organizational hurdles are increasingly exacerbated by rapid transition from local to global economies.
- **Business concerns and strategies** — The impact of the recent downturn on the industrial machinery industry was significant, and order income dropped two digits last year, bringing a five-year boom in the industry to a sudden halt. Achieving revenue targets is therefore the major business concern. Machinery equipment is highly customized and expensive, so maintaining high customer satisfaction is essential to guarantee an adequate revenue stream. Industrial machinery manufacturers' key strategies are therefore focused on retaining existing clients, enhancing customer fulfillment, and improving bid and project profitability. Retaining

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and growing existing customers is essential, and industrial machinery organizations need to improve customer service levels as a way to differentiate themselves from the competition — improving bid and project management is essential to achieve this.

- **Importance of operational excellence** — The industrial machinery industry is experiencing overwhelming and growing complexity, higher cost structures, continued pace of innovation, and more reliance on global and interconnected supply chains. However, manufacturers in high-growth markets like China are not burdened by the same economic uncertainty or business complexity and therefore have the luxury to focus on new product and service innovation more than their western counterparts. This fosters the conditions for competitive advantage, and if manufacturers from more mature markets focus too much on cost containment and existing products, they are at risk of investing insufficient capital in the long run. This is why achieving operational excellence in key areas such as customer orientation, product innovation, and manufacturing operations will be critical for discrete manufacturers in mature markets. In order to achieve operational excellence, discrete manufacturers know they need skilled people, agile and adaptable processes, and relevant information availability. It is no surprise then that these will be critical areas of development, especially for information technology initiatives over the next few years.

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ESSENTIAL GUIDANCE

Increasing complexity and unfavorable economic conditions have led to a great deal of uncertainty throughout the industrial machinery sector. As a result, industrial machinery organizations should think about investing in IT systems that can streamline and automate processes wherever possible, adjust easily to change, and extract valuable real-time business intelligence from all the data that business applications generate.

Adopt a Higher Customer Orientation

- **Improve bid and project profitability** — Much of the Western European and North American industrial machinery sector sells one-off capital items, rather than standard, catalogued items, so unsuccessful bids, or projects won on marginal costs, are not profitable. This also reflects a closer focus on customers. Instead of chasing every piece of business, the way to improve bid and project profitability is to focus sales campaigns only where there is a high probability of success, seek to understand and satisfy customers' unstated (albeit important) needs, and encourage customers to modify their requirements after the bid is awarded.
- **New product design and introduction (NPDI)** — This area is where industrial machinery manufacturers are more willing to improve. The focus on customer fulfillment will generate a better

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understanding of customers' requirements, which in turn will generate specifications for new products. Note that this process combines design and development with the need to launch the product in the market at the right time, in the right locations, with the right features, and with the right quantity and quality. Most industrial machinery manufacturing companies lack a clear NPDI process. This process comprises activities spanning many different organizational silos, including marketing, supply chain, operations, and obviously engineering.

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- **Supply chain management** — This capability will move upwards in industrial machinery manufacturers' ranking. Indeed, globalization is opening up markets for the industrial machinery industry that, until a few years ago, were apparently immune to global competition. Nevertheless, advanced machinery technologies are progressively being offered by organizations from all over the world, thus blurring traditional product differentiation and significantly heating up competition. We expect industrial machinery firms to rapidly move from local to global manufacturing and will go on a process of rethinking how their supply chains are structured to respond to global competition. Clearly, this is aligned to the overall goal of superior customer fulfillment. Firms will want to be closer to their global customers and achieve a better understanding of local market demand in emerging economies to improve the service level in those markets.

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The Role of IT

Small and medium-sized industrial machinery manufactures have traditionally underinvested in IT and have not recognized the role that IT can play in enabling operational excellence.

- **Enterprise resource planning (ERP)** — The ability to easily access information in ERP systems is perceived as an extremely important issue among industrial machinery organizations. Indeed, according to our recent survey, this is seen as key driver for the adoption of new ERP systems or for the upgrade of existing ones.
- **Customer relationship management (CRM)** — This area of IT applications is becoming increasingly important for the industrial machinery industry. Manufacturers are looking to achieve higher customer orientation, and CRM is the IT hub to implement that strategy. However, the customer-facing processes that CRM applications will need to cover for the industrial machinery industry relate primarily to bid and project management, customer order fulfillment, spare parts catalog management, and service management.
- **Business intelligence and analytics** — Industrial machinery organizations are particularly concerned with applications that drive the performance of the business and offer the ability to access relevant information quickly for better decision making. Business intelligence and analytics are among the enterprise

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applications in addition to ERP that industrial machinery organizations identified as critical support to achieve operational excellence.

CALL TO ACTION

- Adopt Higher Customer Orientation
 - What is your level of understanding of your customer's needs?
 - Are you able to adequately plan and forecast your market demand?
 - Is your new product design and introduction process based on a collaborative and multidisciplinary approach?
- Improve Bid and Project Profitability
 - Do you have a clear understanding of your bid process costs?
 - Are you able to select what are the most effective bids?
 - Is your organization able to properly estimate project profitability?
- Upgrade Current ERP or Implement a Modern ERP
 - Can your knowledge workers get easy access to critical information in ERP systems?
 - Are decision makers able to make effective decisions based on factual real-time information?
 - What's the level of functional fit your ERP or bespoke system has with your industry?

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