

# Beating Complexity, Achieving Operational Excellence — Call to Action for the Metal Fabrication Industry

WHITE PAPER

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Pierfrancesco Manenti  
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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 metal manufacturing 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** — Metal fabricants manufacture to customer orders and — pressured by their clients — are rapidly moving away from being manufacturers of standard, catalogue metal fabricated items. Indeed, their industrial clients are progressively moving product complexity up the supply chain as they tend to purchase entire systems rather than simple catalogue items. Metal manufacturers are constantly asked for more product configurations and high levels of customization, while customer requirements are rapidly changing following end-market needs. At the same time, metal product manufacturers need to speed up time-to-market to outstrip aggressive competition from low cost countries and satisfy customers.
- **Business concerns and strategies** — Under pressure due to fluctuating raw material costs and continued downward metal product prices, manufacturers are experiencing a dramatic profit margin squeeze. It comes as no surprise that the most critical concerns are related to raw material sourcing and manufacturing costs. To respond to those concerns, metal fabricants are prioritizing initiatives that help them improve productivity at the plant floor and leverage global sourcing opportunities. Moreover, the aggressive competition from low cost countries is calling on

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metal fabricants in Western economies to prioritize initiatives aimed at retaining and growing existing customers. They will focus on improving customer fulfillment needs, and in doing so, achieving the strategic goal of improving customer satisfaction levels.

- **Importance of operational excellence** — The metal fabrication 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 with 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 availability of relevant information. 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 metal fabrication sector. As a result, metal product manufacturers 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.

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### **Improve Productivity While Fostering Innovation**

- **Decrease operational costs** — Fluctuating raw material prices in conjunction with aggressive competition from emerging economies are pressuring profit margins, leaving little breathing space for players in this industry. As raw material price developments are out of manufacturers' control, they will primarily focus on operational cost containment and productivity improvements. Our recent survey results suggest that a lot still needs to be done on the plant floor to achieve operational excellence, and metal manufacturers will continue to enforce policies aimed at making processes leaner. At the same time, the need to improve customer fulfillment is also requiring metal items makers to improve those manufacturing and supply chain

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processes that play an essential role in customer satisfaction and fulfillment.

- **Demand planning and forecasting** — Metal manufacturing companies are located at the wrong end of the supply chain, far away from the end customer. Organizations have poor market demand visibility and understanding and even a small change in customer orders can produce a significant bullwhip effect for metal product makers, resulting in overstock and stock-out. According to our recent survey, this issue is forcing metal manufacturers to pursue improvements in areas such as demand planning and forecasting, and area in which most organizations believe they are very far from achieving excellence.
- **New product design and introduction (NPDI)** — Most metal fabricators manufacture to customer orders, making the ability to perfectly meet customer fulfillment needs a must to survive the competition. The ability to streamline the development and introduction of new customized products will increase significantly in importance over the next two years. This means metal manufacturers will have to invest in building a streamlined end-to-end product life-cycle process that connects the generally well-developed process of designing and engineering new products to the ability to manufacture and fulfill customer needs on time and in-full.

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## **The Role of IT**

Small and medium sized metal manufacturers have traditionally underinvested in IT, and have not recognized the role that IT can play in enabling operational excellence.

- **Enterprise resource planning (ERP)** — Most metal manufacturers have traditionally been poorly served by packaged solutions. Indeed, many ERP implementations of the past were no more than mere financial accounting systems with sales order management, materials inventory with purchasing transactions thrown in. This was often not enough and caused the need for unforeseen customization activities, which significantly elongated the implementation timeframe. It comes as no surprise that today what metal manufacturers are looking for in a new ERP implementation is how quickly it can be implemented.
- **Financial budgeting and forecasting** — Metal manufacturing companies are squeezed between fluctuating raw materials costs and aggressive global competition through price reduction for metal products. Having effective business applications in place that carefully plan and forecast financial flows is essential for organizations willing to steer the business in the global economy. Financial budgeting and forecasting applications will have to combine the expected dynamics of raw material prices with market demand forecasts and customer orders.

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- **Business intelligence and analytics** — Metal manufacturing 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. In addition to ERP, business intelligence and analytics are among the enterprise applications that metal manufacturers identified as critical support to achieve operational excellence.

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## **CALL TO ACTION**

- Adopt a Higher Customer Orientation
  - Do you have full visibility and understanding of market demand?
  - Are your supply chain and manufacturing operations demand-driven?
  - Is your new product design and introduction process based on a collaborative and multidisciplinary approach?
- Decrease Operational Costs
  - Can you effectively simulate the impact of raw material cost dynamics on your financial performance?
  - What is your level of adoption of lean manufacturing?
  - Are you able to industrialize new products smoothly?
- Upgrade Current ERP or Implement a Modern ERP
  - Is your current ERP or bespoke system easy, quick, and cheap to upgrade and implement new functional requirements?
  - Can your knowledge workers get easy access to critical information in ERP systems?
  - What is the level of functional fit of your ERP or bespoke system with your industry?

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