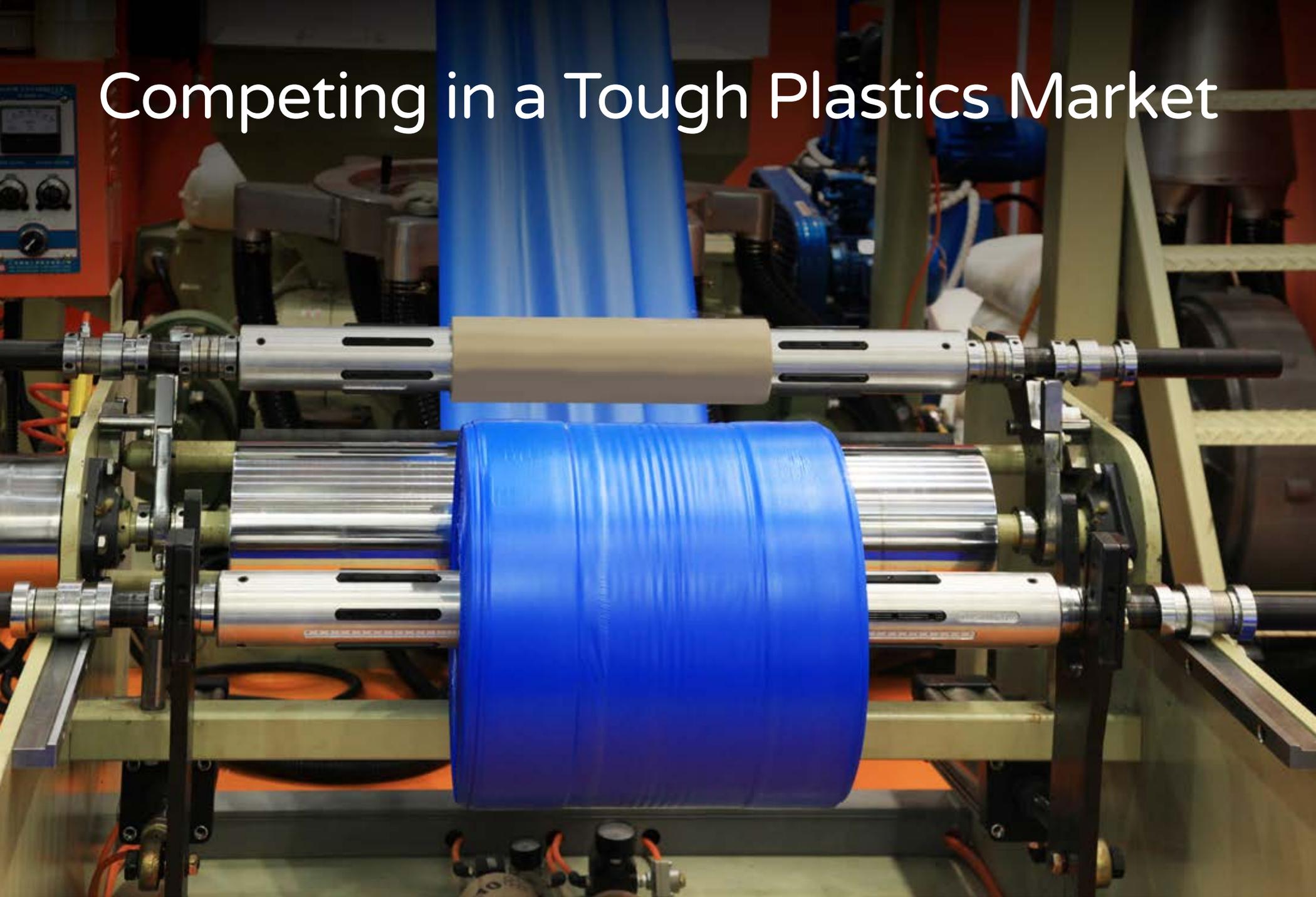


Competing in a Tough Plastics Market



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Introduction

Plastics parts manufacturers are finding it more challenging than ever to stay competitive and grow their business. Limited visibility into plant performance, constant pressure to drive leaner and more efficient operations, regulatory requirements, and expanding into new global markets are just a few of the many challenges surrounding today's rapidly changing manufacturing landscape. Opportunities await plastics manufacturers who face these challenges head on. By transforming your operations, you can stay competitive.

Customer-centricity has never been more important. Plastics manufacturers are evolving from just a cost-effective tubing supplier or part molder into suppliers that add value for their customers. They're offering anything from basic assembly tasks to complete contract manufacturing of finished products.

Major competitive trends are having an impact on manufacturing performance control, emphasizing quality in every aspect of the operation to increase efficiency and reduce the overall cost of making products.

Outline:

1. Industry overview
 2. Challenges facing plastics processors
 3. What your company can do to succeed
-



A Global Plastics Market

When you look at the realities of the plastics industry, it becomes clear we are a global economy. Successful plastics manufacturers realize that the supply chain is global, the customers are global, and often the competitors are global. Let's take a look at the global regions impacting manufacturing trends.

BRIC

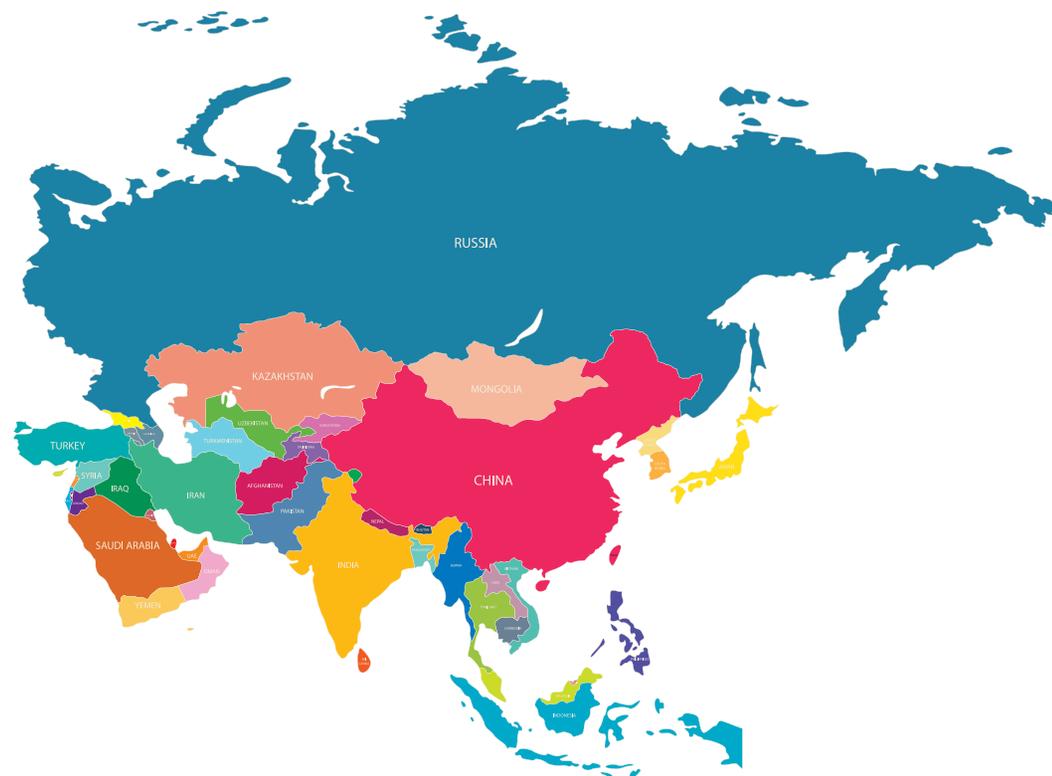
The so-called BRIC countries—Brazil, Russia, India, and China—will remain a strong growth trend in the future. Together, the BRIC countries comprise more than 40 percent of the world's population, cover more than a quarter of the world's land area over three continents, and account for more than 25 percent of global GDP.

Asia

The majority of the world's population resides in an area comprised of China, India, Southeast Asia, and Malaysia—and continues to rise. As this expansion continues, Asia will remain a high-potential growth market for products for years to come.

Africa, Middle East, and Eastern Europe

Quieter global markets are on the rise, particularly in Africa, the Middle East, and Eastern Europe. In many of these markets, infrastructure needs must be addressed before they can start picking up steam. Some of them require political stability first. When these economies receive the services, infrastructure, and stability they need, they will have a bigger impact on the global manufacturing market.



The Growing Economic Powers of BRIC:

- ▶ Brazil
- ▶ Russia
- ▶ India
- ▶ China

Quiet Markets on the Rise:

- ▶ Africa
- ▶ Middle East
- ▶ Eastern Europe

Challenges of Polymer Processing for Manufacturing

As a participant in the plastics business, you may fall into one of several polymer products processing segments that support the manufacturing industry—**injection molding, blow molding, extrusion, contract manufacturer, and thermoform packaging.** Whatever area of specialty, your plastics operation faces familiar challenges as well as newer ones.

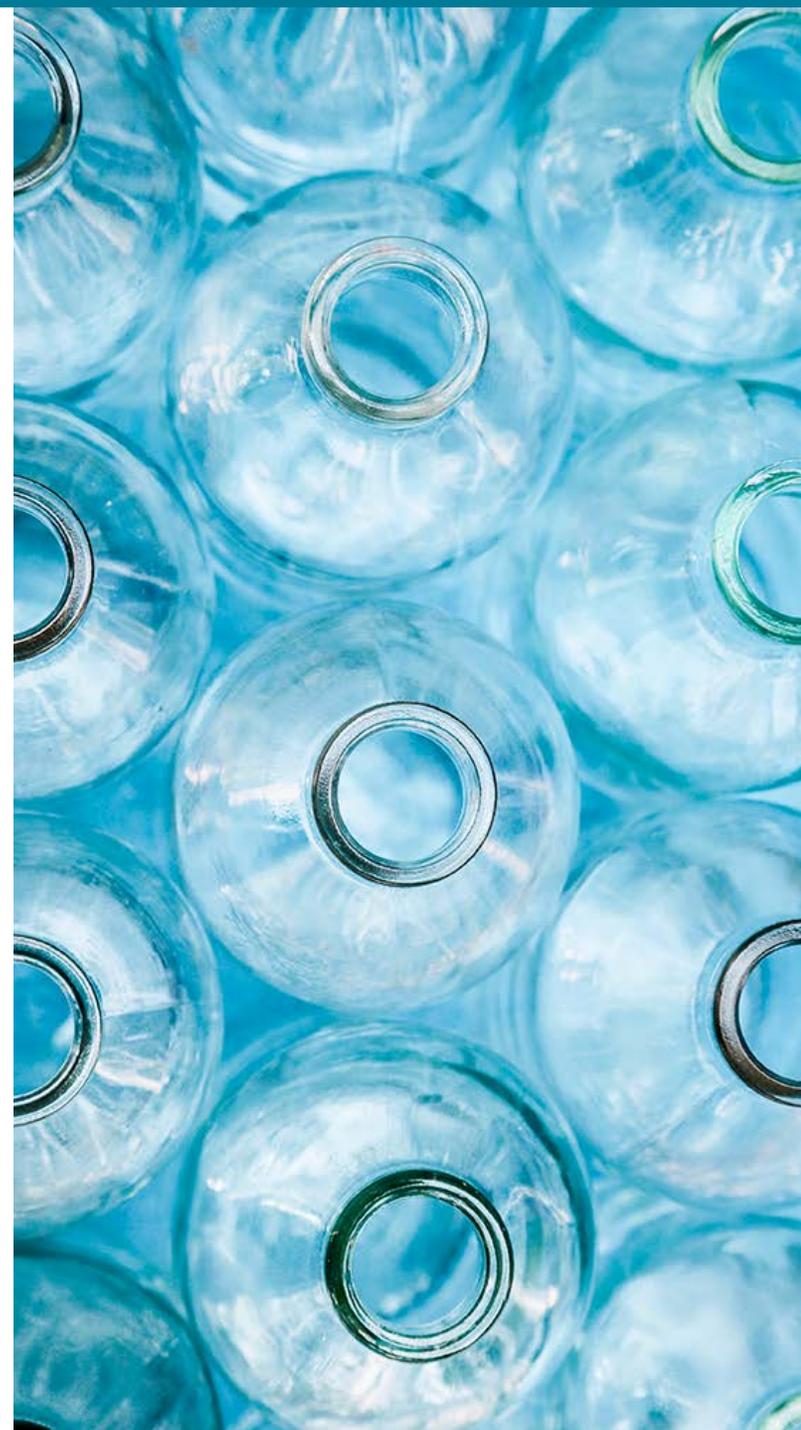
Virtually every plastics company, whether tooling a mold or manufacturing a high-volume medical device, strives to make products cheaply and quickly while maintaining quality. You're always looking for lower cost on materials and labor as well as reduced delivery time. In addition, your business seeks ways to compete with low-cost products that are made off-shore.

Other challenge points are related to the level of service and innovation you provide customers. One of your business strategies might include improving the customer experience with more value-added services. Another strategy may call for helping your customers by providing better product innovation for the next-generation product.

These types of challenges are everywhere in the plastics industry. Let's take a closer look.

Plastics Industry Challenges:

1. Providing acceptable quality products at lower cost
 2. Reducing delivery time
 3. Competing against off-shore, lower-cost manufacturers
 4. Increasing value-added operations
 5. Providing support for innovation
-



Providing Quality Products at Lower Cost

As you're well aware, the two major factors that affect the cost to make your plastics product are the materials that go into the construction of the product, and the labor that's involved in putting it all together.

Beyond that, there are other significant costs like training, operation costs, and scrap—not to mention the overhead of equipment, facilities, and utilities. Then there are the sometimes-overlooked quality control and documentation departments that are so essential for products, especially in industries like medical devices and aerospace. Lastly, there's the front office—sales and marketing, human resources, training, and many other administrative functions. All these factors affect the cost of making whatever it is your company manufactures.

Factors Affecting Cost:

- ▶ Materials
 - ▶ Labor
 - ▶ Training/operations
 - ▶ Equipment/facilities
 - ▶ Utilities
 - ▶ Quality/documentation
 - ▶ Front office
-



Keys to Reducing Product Cost

There are several keys to reducing the cost of making plastics products while maintaining good quality. Before you start making a product, make sure you have an optimized product design. Make sure you're working with a product that's both functional and effective. Also, make sure it's durable. You may be designing products that are not only made for use but made for abuse, and they have to survive that abuse.

Choose the best materials for the application. Sometimes the best material is not the most cost-effective material, but if you consider factors like the reduction in scrap that can come from a high-quality material, ease of processing, order repeatability, and consistency of the company supplying the material, sometimes its overall cost is lower in the long run. Choosing materials based only on the lowest cost available in the market, without regard for who makes it or the unique properties of the material, increases the risk of product failure and the associated consequences.

Use the most efficient processing equipment designed for the intended purpose and the best processing techniques. Rely on a [manufacturing execution system \(MES\)](#) that allows you to consistently make the best-quality products and provides real-time monitoring with built-in tools for statistical process control (SPC) and quality control (SQC). Lastly, look for automation opportunities that reduce both labor costs and the cost of quality.

Keys to Reducing Product Costs:

- ▶ Start with optimized product design
 - ▶ Choose the best material for the application
 - ▶ Use efficient processing equipment designed for the purpose
 - ▶ Monitor statistical process control (SPC) and statistical quality control (SQC) with software tools
 - ▶ Automate as much as possible
-



Compete With Off-shore Manufacturers

With today's software solutions for plastics manufacturers, you can effectively match inventory levels with projected needs. Think about different ways to plan your inventory, and plan equipment and labor to match the orders.

Sometimes you'll have downtime—sometimes planned, sometimes not. Coordinate your labor and equipment maintenance for those downtimes and you will improve your efficiencies significantly. Lastly, you can provide an added service or the next steps in a process for your customer.

Competing With Lower-cost Manufacturers:

- ▶ Match inventory levels with projected need
 - ▶ Plan labor and equipment usage to match orders
 - ▶ Reduce labor by automation
 - ▶ Offer customers value-added steps
-



Get Set for Growth With Value-added Operations

Find ways to provide increased value with added operations. For example, offer your customer an added service by doing the next-step machining on parts you manufacture. In addition to increasing the amount you can charge your customer for the added processing steps, your customer realizes value in their own operations as well through cost and time savings, which they can then pass on to their customers.

Plan inventory to match predicted orders. If your customers don't think far enough ahead, you can help them by suggesting a three-month supply over their usual one-month supply order at a reduced cost on volume. You and your customer can both save on the extra setup time.

Continue to offer services to your customers that help reduce their costs. Examples may include prep assembly, additional testing, documentation, sterilization, packaging, distribution, or inventory storage. Equipment manufacturers are trying to reduce overhead and reduce their own staff, so they are looking for ways to cut costs that you may be able to provide.

Increase Value-added Operations:

- ▶ Provide assembly, packaging, and other valued steps where possible
 - ▶ Plan inventory to match projected orders
 - ▶ Continue to offer services that help reduce costs to customers
-



Pass Learnings From One Customer to Another

Another example of adding value for end-product manufacturer customers is doing injection molding for multiple customers. Injection molders can take what they learn from one customer's requirements and then provide that technology know-how to another customer.

If you're extruding for one industry and able to transfer that technology to another industry, the customer in that other industry gains from your expertise.

These days, a lot of end-product manufacturers are moving toward downsizing their internal operations and relying more on outside experts to help improve their product. They're looking outside for expertise on new technologies, knowledge of materials and how to process them, and better efficiencies.



Innovate for Your Customer

The most successful plastics companies hire well-trained staff with expertise in the latest technologies needed to make the best possible product. They're abreast of what's happening in their industry, whether they're molders, extruders, thermoformers, or heat sealers. Whether they're doing ultrasonic or laser welding to put parts together, they're able to offer value-added services down the supply chain.

The most successful plastics companies are committed to conference programs and regularly attend. They go to tradeshows and meet with the companies that are offering the latest and greatest services in plastics processing and manufacturing.

These companies often have a program of ongoing training for employees at all levels—not just the engineers or technical staff, but even the line operators. In these companies, everybody keeps learning how to do their jobs better.

Supporting Innovation:

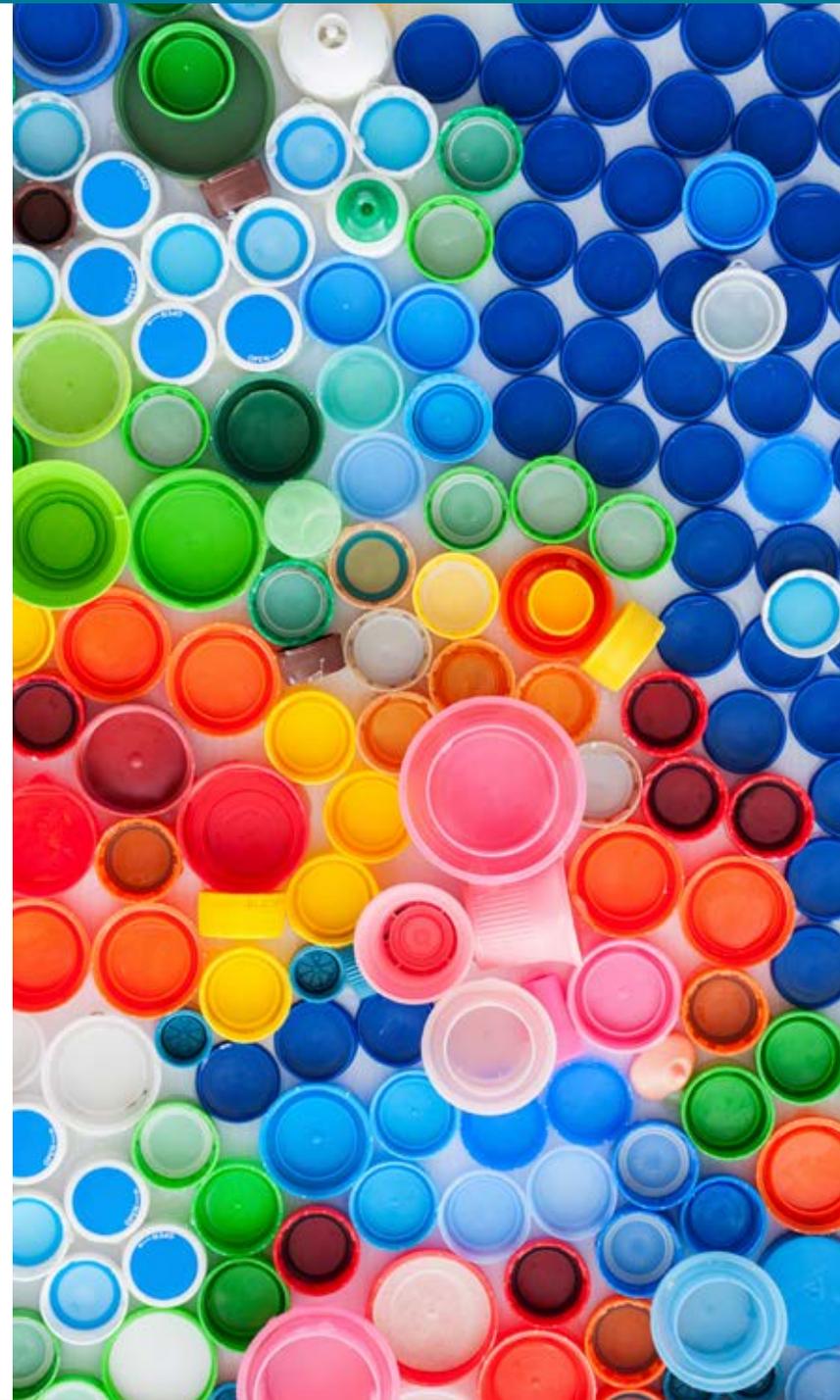
- ▶ Offer technology expertise
 - ▶ Hire well-trained staff
 - ▶ Stay committed to conference and seminar attendance
 - ▶ Commit to ongoing training for all employees
-



Value-added Operations Plastics Processors Can Offer Their Customers

If you keep abreast of the latest technologies in your segment of the plastics industry, the possibilities are vast:

- ▶ Two-shot molding
- ▶ Insert molding
- ▶ In-mold labeling
- ▶ Blending
- ▶ Complete parts inspection
- ▶ Assembly and packaging
- ▶ Tight tolerance surgical parts
- ▶ Metal-to-plastic conversion
- ▶ PEEK polymer extrusion and molding
- ▶ Co-extrusion and layered extrusion
- ▶ Multi-lumen extrusion
- ▶ In-operation color transition
- ▶ In-process printing and coating
- ▶ Supercritical CO² fluid processing points



Stay Committed

On your quest to offer products that are better, different, and newer than what is offered by others in your market, you can gain a real competitive advantage with commitment. Stay committed to continuous improvement in your operation. Understand quality and commit to it at all levels. Invest in the newest technologies available.

Sometimes even if your equipment is still good, you need to replace it with newer equipment. Have an equipment turnover plan and know what you are going to buy as replacement, always using the best technology for the application. Remember that when you use the best machines, you can offer your customers a cost-saving technology that they can then pass on to their end-customer.

With more and more of your customers looking for processors and providers who offer innovation, be the company in your segment that's on top of what's new in the plastics industry and help your customers design their products to make them even better.

Stay Committed to:

- ▶ Continuous improvement
 - ▶ Quality at all levels
 - ▶ Investing in MES software
 - ▶ Offering customers cost-saving technologies and services
 - ▶ Innovation
-





Real-time Insight for Better Production

Epicor Mattec® MES™ is designed to help you increase efficiency and capacity to unlock the hidden potential in your plant.

Capable of connecting to any workshop machine, Mattec MES includes tools to analyze scrap and downtime, automate quality control, and monitor energy consumption. It also contains real-time scheduling and planning tools that enable you to modify and optimize your production schedule, so you can manufacture and deliver on time, every time, and respond faster to changes in customer requirements.



“We used to run 3% to 4% scrap. Last month we were down to 1.37%. You can’t get much better than that; that’s world-class and is largely attributable to [Epicor] Mattec MES. It’s the tool that gives us the numbers we need to make good decisions.”

Dave Rose, Quality Engineer | Johnson Controls

If your MES isn’t giving you the responsiveness you need, we should talk. Interested in learning more about Epicor Mattec MES?

Contact us at:

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About Epicor

Epicor Software Corporation drives business growth. We provide flexible, industry-specific software designed around the needs of our manufacturing, distribution, retail, and service industry customers. More than 40 years of experience with our customers' unique business processes and operational requirements are built into every solution—in the cloud or on premises. With this deep understanding of your industry, Epicor solutions manage complexity, increase efficiency, and free up resources so you can focus on growth. For more information, [connect with Epicor](#) or visit www.epicor.com.



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