



eXensys Micro Vertical Solution

Micro-Vertical – Plastic Molding

Agenda

Industry Overview

Industry Characteristics

Key Processes 'n' Challenges

eXensys Best Practices



Industry Overview

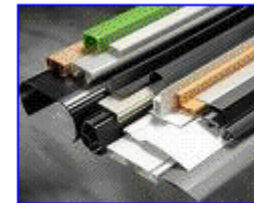
Micro-Vertical – Plastic Molding

Plastic molding Industry involves a process for producing parts from both thermoplastic and thermosetting plastic materials. Material is fed into a heated barrel, mixed, and forced into a mold cavity where it cools and hardens to the configuration of the mold cavity. After a product is designed, usually by an industrial designer or an engineer, molds are made by a mold maker (or toolmaker) from metal, usually either steel or aluminum, and precision-machined to form the features of the desired part. Injection molding is widely used for manufacturing a variety of parts, from the smallest component to entire body panels of cars. This industry involves working with a wide range of plastic components.

Injection Molded Products



Extruded Products



Plastic Extruded Profile



Industry Characteristics

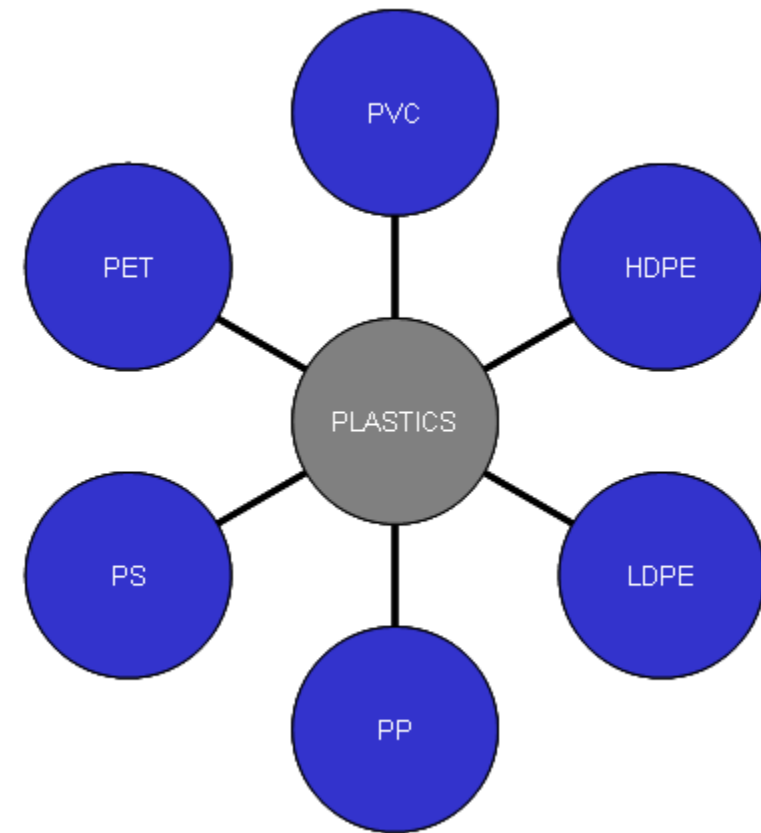
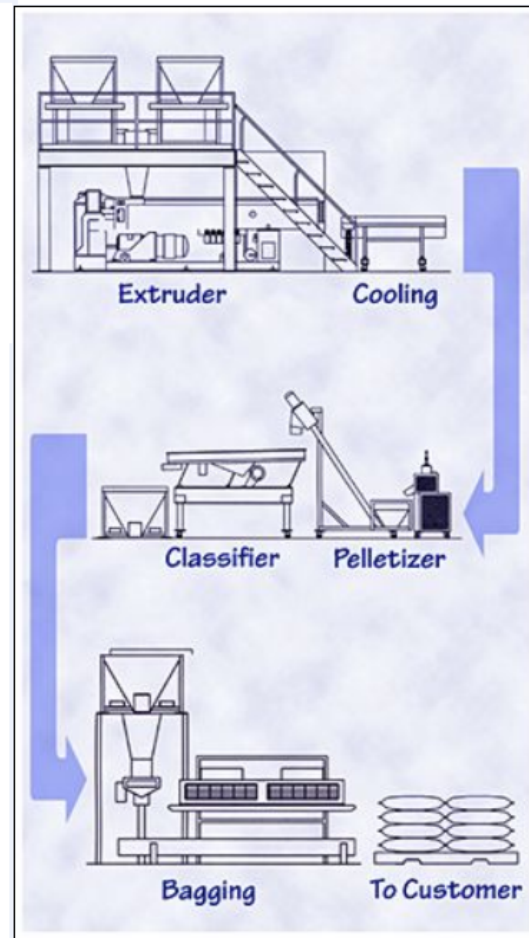
Micro-Vertical – Plastic Molding

➤ In the Plastics Industry plastics are fed to an extruder where it is melted and extruded into strands then cut into pellets.

➤ Four main processes in the Plastics Industry are

1. Injection Molding
2. Blow Molding
3. Film Extrusion
4. Film Extrusion

➤ Major Plastics used in the Industry are PET, PVC, PS, PP, HDPE and LDPE.



Key Processes 'n' Challenges

Micro-Vertical – Plastic Molding



Customer Order



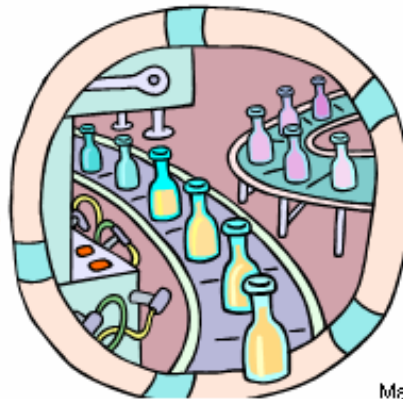
Working Schedule



Material Purchasing



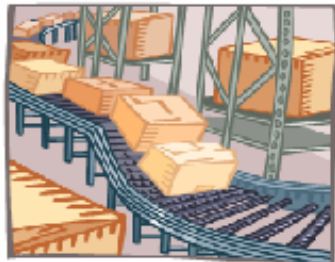
Die Set up & Plastic Granule Processing



Mass Production



Quality Control



Packing



Delivery

Key Processes 'n' Challenges

Micro-Vertical – Plastic Molding

Key Processes

- Forecasting, Sales & Operations Planning
- Detailed planning generating production, purchase orders (Standard & Sub-contract)
- Maintenance of stock at shop floor, stock at vendor
- Maintenance of variants items through SKU
- Production Orders Generation
- Rejection & Rework Process

Challenges\Pain Areas

- Reduction in production costs
- Efficient inventory management
- Managing purchase lead times
- Maintaining production quality
- Maintaining performance metrics
- Reduction in production lead times
- Order is greater than capacity



eXensys Best Practices

Micro-Vertical – Plastic Molding

S.No	Pain Areas	Why do companies fail?	eXensys Best Practice
1	Maintaining production quality	<ul style="list-style-type: none"> ➤ No proper quality checks ➤ Difficulty in trouble shooting 	<ul style="list-style-type: none"> ✓ Incoming quality checks for raw materials ✓ Quality checks for sub-contractors production ✓ Stage wise checks during production
2	Reduction in production lead time	<ul style="list-style-type: none"> ➤ No input output control ➤ Improper management of orders ➤ No control on shop floor activities 	<ul style="list-style-type: none"> ✓ Automatic lead time calculation based on routing ✓ Capacity calculation based on finite or infinite capacity ✓ Scheduling option for forward and backward ✓ Production order rescheduling
3	Efficient inventory Management	<ul style="list-style-type: none"> ➤ No tracking on stock on RM ➤ No order methodologies for items ➤ Subcontractor stock is not known 	<ul style="list-style-type: none"> ✓ Maintenance of shop floor items ✓ Maintenance of stock details variant specific ✓ Maintenance of subcontractor stock details ✓ Maintenance of ROL's for items
4	Order is greater than Capacity	<ul style="list-style-type: none"> ➤ Unable to identify idle resource ➤ Poor planning 	Better planning , Reconciliation of Order & Realization of Pdn. Order , Optimize operations , meticulous planning and through work center load graphs - idle resources can be checked
5	Performance Metrics	Unable to analyze performance	The success of the shop floor is measured simply by efficiency and utilization, you can be sure that parts will be produced even when they are not needed, resulting in too much inventory of unneeded material and possibly shortages of what is needed. By OEE metrics the solution shall be addressed

