

Plastique Micron moulds its planning future with Preactor



Plastique Micron, a Canadian based mid-sized blow moulding plastic container manufacturer, has been in business since 1970 and employs approximately 175 people. In recent years the company has adopted a more customer-oriented approach to be more than just a manufacturer, but also a partner offering a complete, global packaging solution in the form of plastic containers.

This meant the Implementation of a close customer relationship program focused on product development, customer service, and the quality of their products, in addition to an expansion of their product line in terms of decorating and caps. The main focus of Plastique Micron is on the pharmaceutical and cosmetic industries. Over 50 % of Plastique Micron's sales are in the U.S.

Scope of Services Offered

In addition to the production of plastic containers using moulds and tools, Plastique Micron's engineering/technical services make & design customized moulds for their customers, which are then used to produce their specific containers.

Some of these Services / Capabilities include:

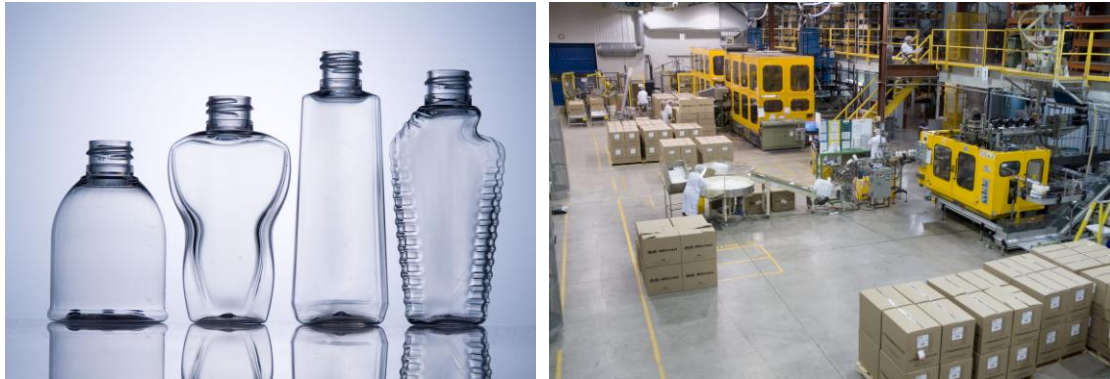
- Needs analysis for designing new moulds with customers
- Design and drawings for future containers and moulds, required tools/equipments.
- Production of mock-ups, if necessary
- Design of new moulds and tools to produce containers
- Sample production according to customer requirements
- Production of containers using methods inspired by Good Manufacturing Practices (GMP) and Lean Manufacturing principles
- Decoration in a partner's facilities, if necessary to meet customer's requirements
- Warehousing services in their facilities, if necessary to meet customer's requirements

Specific Planning and Scheduling Difficulties

Until 2006, Plastique Micron was using a manual planning process on a magnetic board in an office isolated from production. It involved a lot of tedious steps and many changes on a daily basis. A lot of critical information required for production was not documented and only known to those very few in charge of the planning function. Many difficulties were present in managing the numerous production

constraints and conflicts associated with the various Moulds, tools and equipments required for production.

The process involved production personnel manually coming by the planning office multiple times a day to note the latest changes in the schedule and apply them in production. Customer service, order follow-up and promising was extremely difficult as the actual progress in production as well as the consideration of all constraints was neither fully known nor accessible in a reasonable timeframe without many manual validations.



Plastique Micron then decided to search for a finite capacity scheduling software solution to solve these problems. PREACTOR was recommended by their ERP provider as the right solution to solve these issues. West Monroe Partners, a PREACTOR implementation partner, contacted the customer and after a few meetings, requirements analysis and demonstrations, PREACTOR P300 was selected to manage the multiple constraints and enhance the efficiency of the production scheduling process.

PREACTOR P300 as the Solution

By installing Preactor, the goals were numerous:

- I. Eliminate non-value-added tasks to maintain and make manual additions to the schedule and improve the overall productivity of the planner to allow greater focus on customer service.
- II. Record all critical information required for production scheduling (such as allowed machines, groups, operators, moulds and Tooling constraints) in a centralized database based on orders downloaded from the internal ERP system.
- III. Improve the visibility of the schedule by Dissemination throughout the company in an electronic form to the various users (production, sales, and management).
- IV. Create a realistic production schedule that considers all major constraints in the production process.
- V. Gathers updates electronically from the production floor to update automatically the schedule.

The Implementation process

The implementation team was composed of a task force of the customer planning department, the IT team as well as West Monroe Partners. The following steps were followed throughout the project:

- Analysis and technical specifications
- Functional and technical training
- Configuration development and customizations of the Preactor system which included a function to dynamically select / create the list of allowed machines for each order based on the characteristics coming from the ERP product Configurator.
- Master data creation and maintenance which included the set-up of more than 2000 moulds and tools constraints to be considered in the scheduling process
- Technical training on configuration and customizations
- Development of the Preactor interfaces with the ERP system
- Testing and validation
- Pilot Project with parallel operations of the old manual system and GO-LIVE.

The initial project deployment took 6 months and the main difficulties were the establishment and specifically the definition of all moulds and tools constraints required for the production process. One of Plastique Micron's main added values is the flexibility of their production process for which it was challenging to define completely all possible allowed permutations. This was realized within PREACTOR by the usage of an alternate constraints concept combined with a tailored algorithm to automatically create valid resources grouping.

It was decided after much work done to scale down the management of these constraints and to go live initially with a subset of them in order to minimize the dependency on information accuracy.

The Results and the Future

PREACTOR has been LIVE at Plastique Micron now for nearly 2 years. The greatest benefit has been in the efficiency gained in the process of actually building the schedule. Its usage has allowed the reorganization of the customer service and planning departments which used to be merged into one function.

The planning department can now focus more of their attention on supporting customer service and on-going improvement. Another major objective was to record and define all major rules, constraints, equipment capabilities within a central repository within PREACTOR which was initiated and major priorities met. Order promising and order follow-up became also much easier and an answer to a customer can now generally be given within a few minutes when previously this involved a validation and phone conversation in most situations between the planner and production supervisor and sometimes manual production walkthrough to confirm progress.

David Pouliot, Director of IT of Plastique Micron comments about the implementation.

“The information flow about our orders has significantly improved; It is now accessible at all times to those who need it. Planning is now much more structured and greater efforts are being made to meet customers’ deadlines. PREACTOR has assisted us well in managing our production constraints and conflicts related to equipment capabilities required for production. However, there is still work to be done to further automate this using PREACTOR particularly in the different tooling required for each product and the different permutations possible. Our internal processes remain very complicated in this respect and our databases are still incomplete and needs more updating. If it isn’t easy for a human to define, it won’t be easy to program into a computer system!”

Mr. Pouliot further comments: “Our system integrator, West Monroe Partners, has also guided us and assisted us well throughout the implementation and in the on-going support and enhancements”

Plastique Micron is now after this project, training and support provided totally independent in their maintenance and enhancements of the PREACTOR system. They are now planning a subsequent phase to fully cover and consider all tooling in the scheduling process as well as generate the associated pick lists for the tool room, subject to finalizing the complete constraints definition for each product line.

Plastique Micron’s PREACTOR project is a good example that even a small organization with limited IT resources, with the right focus, training and planning can be successful and become self-sufficient in their operation of an advanced software solution such as PREACTOR and generate significant operational improvements.