Composite Manufacturing Value Proposition

ProModel
VISUALIZE ANALYZE OPTIMIZE **VAO** >>>

Composite manufacturers are facing a time of exceptional growth due to increasing demand for lighter and stronger components. This trend has created many manufacturing challenges for composites manufacturers given the complexity of their process and the capital intensive nature of their business. The ability to strategically understand the capacity of the process given existing demand, future demand, and mix variability is critical to meeting customers' needs and securing additional business.

Process complexities and current capacity assessment methods create many issues:

- Difficult to predict capacity constraints and scheduling issues
- Moving bottlenecks at Autoclave, Layup and Machining
- Inability to accurately formulate Bid &Proposal
- Less than confident in Cap-Ex plan
- Missed deliveries
- Underutilization of equipment and tools
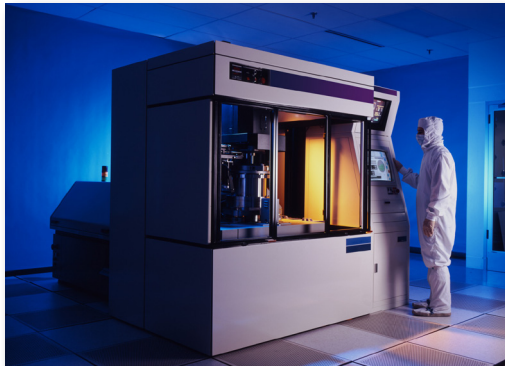
These challenges are largely due to the complexities that existin the composite manufacturing environment such as:

- Mixed model production Autoclave constraints including the number, size, sensors and process conditions
- Tool quantities and availability (layup, trim, laser projectors, etc.)
- Product size & cure times
- Hot parts (AOG) given priority through the system
- Time limitations on stored and in use materials
- Personnel types & quantity

These complexities make it impossible to analyze using traditional analysis tools such as spreadsheets which results in organizations making less than optimal decisions. With demand increasing significantly, it is crucial that organizations ensure they have the right equipment and people at the right time.

What would it be worth if your company could have a business support tool that allowed you to:

- Accurately predict the impact of increased production on current system assets and resources
- Maximize capacity of the existing system under various demand scenarios
- Predict staffing, tooling, and/or equipment changes required to optimize production levels for future demand scenarios
- Create and test priority based rules for key production areas like layup, autoclave and machining to maximize capacity and minimize total product cycle time through the system
- Accurately predict when an order will be completed based on the known status of work currently in process and future work that is scheduled to begin
- Analyze the impact of "hot part" priorities on remaining product throughput
- Create internal proficiency in predictive analytics