DELIVER ON YOUR PROMISE

How simulation-based scheduling will change your business

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Preface

You're a manager. You may be in charge of a make-to-order product, or maybe you oversee transportation and logistics in the service industry. But no matter what you do, the most important part of your job is to make your customers happy. And your biggest headache? It's scheduling, and all the ugly words that so often come with it: long lead times, late orders, overtime hours, high production costs—and unhappy customers.

Many companies, possibly the one you work for, have already invested in information systems to try and ease the whole scheduling process. Enterprise Resource Planning (ERP), for example, or Advanced Planning and Scheduling (APS) systems can track customer orders, plan production, and order materials. And more complex Manufacturing Execution Systems (MES) can tell you the status of the production floor and the flow of work through your system. These various tools can help with things like ordering during specific planning periods, providing information on individual pieces of equipment, and knowing the whereabouts of each order on the factory floor.

Yet while these planning and tracking systems often promise headache-free automation, they're ultimately limited for a simple reason: they aren't designed to actually transform your company's production plan into a detailed and reliable schedule. Therefore, those of you in charge of scheduling still have to use—or eventually revert back to using—tedious manual methods. Armed with little more than a spreadsheet, a planning board, and copious amounts of coffee, you can put in hours of work on a schedule but still aren't guaranteed success. And when a machine breaks down on the factory floor or one supplier misses a deadline? Well, your schedule becomes obsolete and your production staff often ends up reacting to those situations without having a clear overview of the big picture.

What is ultimately lacking in the ERP/APS and the MES systems is the ability to (1) accurately model the precise details in your system, and (2) to deal with the inevitable risks and uncertainties within that system. This first issue creates

schedules that are non-actionable in real life, while the second results in overly optimistic schedules that lead to you make promises you can't keep. Either way, you end up not meeting desired KPIs, profit margins decline, and customers aren't happy. Bring on the headache.

So what's missing in this critical chain of events in your business? Simio's Risk-based Planning and Scheduling (RPS) addresses both of these problems and results in a real-time schedule that fully accounts for all the moving elements of your company's production. This book was written to lay out the key problems with the current approach to scheduling and to show you the benefits of transitioning to a system that can generate a dynamic, interactive, simulated production schedule. And as an added bonus, reading it will help you take stock of your company, re-envision resources to improve profitability, and understand how scheduling directly impacts what you can promise your customers.

Simio can help you deliver on that promise.