



## Case Study

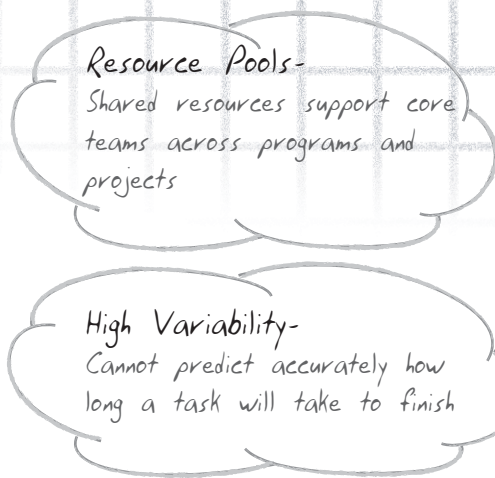
*How Advanced Project and Resource Scheduling  
Drives Seagate R&D*



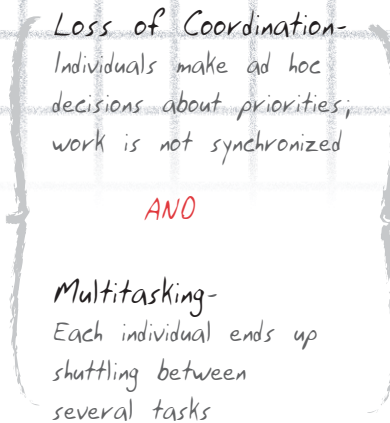
**Speed to Market**

*Advanced Project & Resource Scheduling*

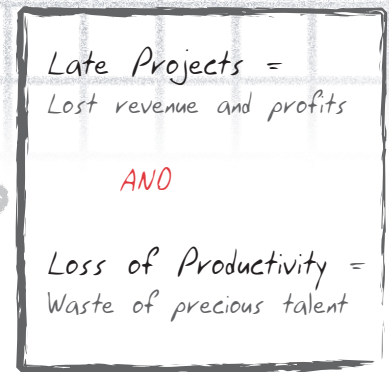
## Seagate's Project Environment



## Effects on Operations



## Bottom-Line Impact



## Seagate at a Glance

Seagate Technology is the world's leading provider of storage technology for Internet, business and consumer applications. Products include disc drives for the enterprise, PC and consumer electronics markets, as well as storage area network solutions.

Time to market is critical in the industry for survival. Seagate must commit to aggressive due-dates for its customers and meet them.

As Brent King, executive director of Seagate explains, "In the hardware industry today, the first OEM supplier to reach the quality cycle generally enjoys preferred status with customers. Our research shows that even a delay of one day in a product launch can cost us upwards of \$500,000 in lost revenue and \$300,000 in bottom-line profit."

## Life Before at Seagate

Life at Seagate was similar to what can be expected in most high-tech companies where pressure to deliver fast is intense.

An engineer would arrive at his workstation only to face an inbox already chock full of tasks. Almost all tasks would be deemed urgent. He would decide what to do first and what to do later. Meanwhile, different project managers would call him to request that he give priority to their work first.

For a project manager, it was a constant struggle to get resources when needed. Despite careful upfront planning, the project was constantly falling behind schedule. Inevitably, some resource would be preoccupied with another project, stalling progress. Reminding the project manager how late the project was in most areas was a giant, detailed chart, hanging on the wall.

A functional manager would face a different challenge daily. While project managers would request additional resources for their projects, he only had a finite number of resources available. Further, the demand for resources often fluctuated and affected the workload as it peaked and dipped.

The situation was only getting worse as shortening product life cycles meant more projects were being undertaken. All the while, the functional manager's resources had not increased proportionately.

Finally, executives had to constantly explain to their customers why they would not be able to meet due-date commitments.

## R+O Management Initiative

Seagate had implemented the PACE© approach as an overall governing structure. It involved creating core teams to facilitate the speed of decision-making and to bring expertise to projects. As the company started looking for a software solution, the natural choice seemed to be PACE automation software.

However, it soon became clear that it would not work unless the software had a strong scheduling capability that ensured:

- Due-dates quoted were aggressive and still reliable
- Schedules could withstand high uncertainty in R&D
- Everyone's priorities remained synchronized during execution

The software also had to be lean so that it would not become just another white elephant.

## Implementing Advanced Project & Resource Scheduling (APRS)

Speed to Market presented the advanced project and resource scheduling solution to Seagate. Seagate liked the solution and decided to "pilot test" it in a new program. This program — designed to bring the first 15,000 RPM disc drive to market — was significantly behind schedule.

With the Concerto-APRS solution, Seagate not only recovered the delay from the original due-date but also shipped the product five weeks early. It was then incorporated in the product architecture of leading computer manufacturers. By reaching market first, Seagate eliminated their competitors from the field — all consequently deciding to shelve their similar projects.

"Those five weeks produced an extra \$11 million in revenues and \$5 million in gross profits," affirms Joan K. Motsinger of Seagate.

Soon afterwards, Seagate decided to roll out the solution and now successfully employs Concerto in multiple product development programs throughout the company.

## Life Today

For Seagate, the results are evident even beyond bottom-line figures. Life for all project participants is much simpler.

Today, engineers get clear, uniform priorities and do not have to resort to multitasking. Furthermore, they enjoy forward visibility and thus can plan their lives much better.

Project managers feel assured that their projects will get resources when needed, without having to constantly negotiate with functional managers. Additionally, they get early warning signals of delays and can act proactively.

For functional managers, knowing what is critical and what is not makes it much easier to assign resources.

Now, executives are confident in quoting an aggressive due-date to win business, assured it will be met. They now also have unprecedented control over their complex product development process.

One other major impact has been the reduced need for data. No longer do managers have to worry about all the details. Managers can be managers, not just process administrators.

### Accenture Consulting on Concerto at Seagate

Until recently, most of the systems that supported R&D management processes had a distinctly mechanical approach. They captured and catalogued all the tasks, deadlines, budgets, priorities, and so on.

Seagate chose Concerto from Speed to Market because it is decidedly different. It uses proprietary algorithms (constraints-based optimization) to predict the few tasks or resources that require management attention.

As a test, Seagate implemented Concerto on a product development project that was five months behind with five months to go. When the product was delivered on its original target date, lagging competitors dropped out and left Seagate with 100 percent share — millions of dollars in additional revenue.

Needless to say, Seagate implemented Concerto throughout the firm.

Jane Linder  
"R" Meets "D" on the Web  
Accenture Report, May 2001



# Theory of Constraints Not Dumb Automation

## How Advanced Project & Resource Scheduling Assures 100% Projects Finish On Time

Here's how Advanced Project & Resource Scheduling enables businesses to deliver 100% projects on time:

1. **Concurrent scheduling of multiple projects & resources:** schedules are automatically tested across multiple projects, so they fit into available capacity
2. **Critical Chain buffering:** schedules are immunized against variability, so they are stable with minimum slack
3. **Buffer-based execution priorities:** all resources get uniform priorities during execution to ensure schedules stay synchronized

## About Speed to Market

Speed to Market is the first enterprise software company to recognize that traditional project management, invented in the 1950s to manage single projects, has fundamental flaws. Therefore, instead of merely web-enabling traditional project management, Speed to Market has chosen to correct those flaws.

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